

**FINAL**  
**Environmental Assessment**  
**for the**  
**Proposed**  
**Naval Ordnance Test Unit**  
**Engineering Services Facility**  
**at**  
**Cape Canaveral Air Force Station**



**August 2006**

## **Finding of No Significant Impact**

### **Naval Ordnance Test Unit Engineering Services Facility Cape Canaveral Air Force Station**

**August 2006**

Pursuant to the Council on Environmental Quality regulations, the provisions of the National Environmental Policy Act of 1969 (40 CFR Parts 1500-1508), 32 CFR 989, Environmental Impact Analysis Process, and the Department of Defense (DoD) Directive 6050.1, the United States Navy conducted an Environmental Assessment (EA), hereby incorporated by reference, on the potential environmental impacts of construction of a new Engineering Services Facility (ESF) for the Naval Ordnance Testing Unit (NOTU). The Navy is currently using several older buildings at the NOTU port area as offices for engineering services activities. The Navy must perform maintenance of the facilities, some of which are sparsely populated, as well as maintain all utilities associated with the facilities. To improve this situation, the Navy proposes to construct a single facility to house a complex of offices to provide a workplace for approximately 300 personnel.

The EA evaluated potential environmental effects of constructing the NOTU facility at the proposed location, south of the Palisades Geophysics Institute (74100) off of Pier Road, an alternative site just south of the NOTU Support Facility (81701) on Samuel C. Phillips Parkway, and the No Action Alternative. Under the No Action alternative, the facility would not be built at either site and the Navy would continue operations, as is. No change to current conditions would occur from the No Action Alternative.

No significant environmental impacts were identified that would require the completion of an Environmental Impact Statement (EIS); however, some less than significant impacts were identified and are summarized below.

#### *Biological Resources*

The EA analyses conclude that there could be direct and indirect impacts to threatened and endangered species at the proposed site. Compensation for loss of Florida Scrub-jay habitat would be required because of vegetation removal. Direct impacts on scrub-jays would be negligible since jays do not currently occupy the site. Construction of the facility would not hinder future scrub restoration activities since controlled burning would be permitted around the facility.

Eastern indigos would be expected to move out of the area during groundbreaking activities and any encountered during gopher tortoise relocation would be safely moved out of the project area. Additionally, educational posters would be provided on site and the project area would be surveyed and monitored daily to ensure no indigos are present.

Southeastern Beach Mice could be directly impacted by equipment; however, the likelihood of this species being present is extremely low. Although beach mice have been observed in areas not considered typical beach mice habitat, the site is extremely overgrown and unlikely to contain the habitat required for this species.

Any gopher tortoises present would be relocated safely out of the project area in accordance with blanket Gopher Tortoise Relocation Permit.

Impacts to sea turtles as the result of exterior lighting would be reduced through the adherence to 45 SW exterior lighting regulations, as well as a Light Management Plan that would be required for the facility.

Consultation with the U. S. Fish and Wildlife Service (FWS) was conducted for the entire campus in order to evaluate cumulative impacts to federally protected species. As compensation for loss of the 50 acres for the campus site, which includes the NOTU building, 34 acres of scrub habitat in Compartment 12 and 134 acres of scrub in Compartment 14 will be restored. In addition, a study to identify scrub jay predators and determine what ecological factors affect their abundance and distribution will be funded. Since the NOTU facility will occupy approximately 8.5 acres of the campus site, they will be responsible for compensating for their portion of habitat destroyed. NOTU will be required to compensate at a 4:1 ratio; therefore, will provide funding for restoration of 34 acres. This money will be deposited directly into the National Fish and Wildlife Foundation fund for the 45 SW, which will then be used to fund restoration activities on CCAFS.

#### *Geology, Soil and Water Resources*

Land disturbance activities have the potential to accelerate erosion. Prior to and during land clearing, erosion and sediment control measures would be designed and implemented to retain sediment on site and prevent violations of State and Federal water quality standards. Any erosion or shoaling that could cause adverse impacts to water resources would be mitigated by implementing Best Management Practices, where applicable.

#### *Cumulative Impacts*

Cumulative adverse impacts were identified as having the potential to occur for Biological Resources. Three projects were identified in the vicinity of the proposed action that would result in adverse impacts to the Florida Scrub-jay as a result of loss of habitat. Through informal Section 7 consultation with the FWS for this project, it was determined that cumulative impacts do not apply in this instance since 168 acres of currently overgrown scrub habitat would be restored, thus providing additional acreage for scrub jays to occupy.

#### **Conclusion**

Based upon my review of the facts and analyses contained in the attached EA, conducted in accordance with the provisions of NEPA, the Council on Environmental Quality regulations, and 32 CFR 989, I conclude that the proposed action will not have significant environmental impacts, either by itself or cumulatively with other ongoing projects at Cape Canaveral Air Force Station. Accordingly, an Environmental Impact

Statement is not required. The signing of this Finding of No Significant Impact completes the environmental impact analysis process.



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RICHARD E. WEBBER  
Major General, USAF  
Director of Installations and Mission Support

18 Dec 06

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Date

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## 1.0 Introduction

This introductory chapter provides an overview of the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations for the conduction and preparation of an environmental assessment as well as the purpose, need, and location of the proposed action. Relevant federal and state regulation, statutes, and permits are presented.

### 1.1 Overview

The NEPA and the Council on Environmental Quality regulations require the preparation of an environmental assessment to evaluate the potential impacts of Federal actions on the surrounding environment. Council on Environmental Quality regulations require that an environmental assessment provide evidence and analysis to determine whether a proposed action might have significant effects that would require preparation of an Environmental Impact Statement. If the analysis determines that the environmental effects are not significant, a Finding of No Significant Impact is prepared.

This environmental assessment evaluates the potential environmental impacts associated with the proposal of the Naval Ordnance Test Unit (NOTU) to construct a new administrative facility 100 feet south of Pier Road on Cape Canaveral Air Force Station (CCAFS). The United States Navy is the lead agency for NEPA compliance on this proposed project.

Although the National Aeronautics and Space Administration (NASA) and Air Force space launches are well publicized, the Navy is the largest user of the Eastern Range at Cape Canaveral, conducting over half of the missile firings on the range. In accordance with Department of Defense (DoD) 3200.11, the 45th Space Wing manages the Eastern Range. In addition, the Wing provides direct and contractor support to maintain NOTU facilities. Patrick Air Force Base furnishes dormitories, family housing, and other support for NOTU personnel. The Commanding Officer of NOTU is the Director of Navy Tests for all Navy activity on the range.

### 1.2 Project Location

CCAFS is located in the State of Florida along the Atlantic coast in Brevard County. The installation occupies the majority of the Canaveral Peninsula, a barrier island located approximately 155 miles south of Jacksonville, 210 miles north of Miami, and 55 miles east of Orlando. The installation is bordered on the north by the Canaveral National Seashore, on the south by Port Canaveral, on the east by the Atlantic Ocean, and on the west by the Banana River, which is an estuarine system. Figure 1-1 shows CCAFS and the surrounding area.

CCAFS encompasses approximately 15,804 acres that support the space launch and test requirements of the Department of Defense, the 45th Space Wing, NASA, NOTU, the Florida Space Authority, and numerous commercial contractors.

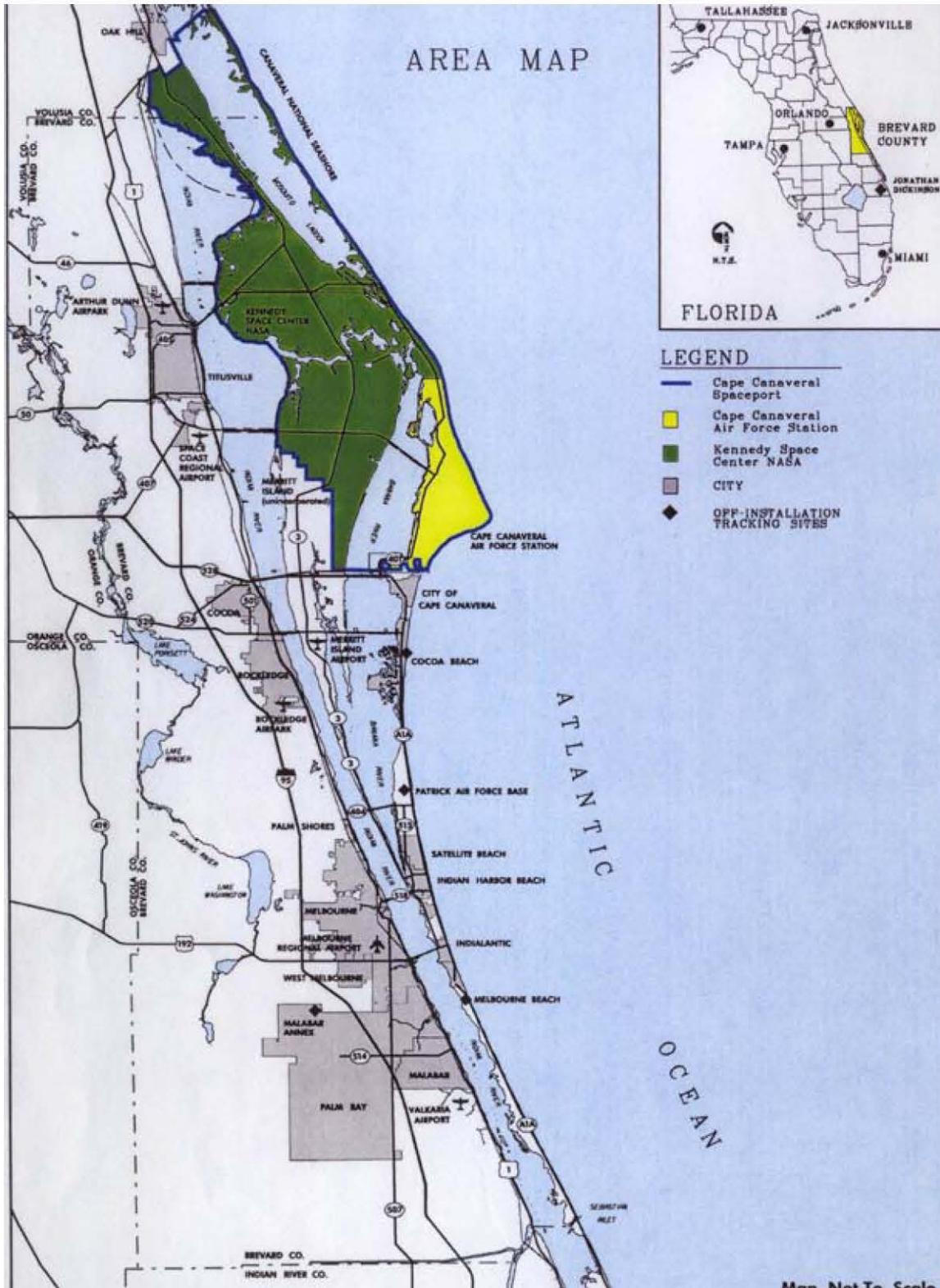


Figure 1-1 Area map of Cape Canaveral Air Force Station and surrounding area

### 1.3 Purpose of and Need for Proposed Action

The Navy is currently using several older buildings at the NOTU port as offices for administrative activity. The Navy must keep up these buildings, some of them sparsely populated, as well as maintain all utilities for these buildings. To ameliorate this situation, the Navy proposes the construction of a facility to house a complex of offices and provide a workplace for approximately 300 personnel in the following departments:

- Test and Facilities Engineering Department
- Test Engineering and Analysis Department
- Operations Department
- Test Instrumentation Department
- Supply Department
- Support Services Department
- Resources Management Department
- Morale, Welfare, and Recreation Department
- Contractors and other Department of Defense Personnel
- Approximately 50 Surge People Capability

The proposed facility will not exceed 225,000 square feet.

### 1.4 Scope of the Environmental Assessment

This environmental assessment supports the Navy and the Air Force in the decision to locate, construct, and operate a new administrative facility for NOTU operations. As such, it describes the potential environmental impacts associated with the construction of the facility, and the mitigation measures developed to avoid, minimize, or offset adverse impacts as identified in the assessment.

This environmental assessment was prepared in accordance with the requirements of NEPA of 1969 as amended [42 U.S. Code (U.S.C.) 4321 et seq.] and as implemented by Council on Environmental Quality regulations [40 Code of Federal Regulations (CFR) Parts 1500 – 1508).

Federal and state environmental statutes that set specific guidelines, regulations, and standards govern most resource areas. Relevant federal and state regulations and statutes are outlined in Appendix A. These standards provide benchmarks for determining the significance of the impacts.

This assessment considered eleven environmental resources to provide a context for understanding the potential effects of the proposed action and for assessing the significance of potential impacts.

The resource areas considered in this analysis include:

- Air quality
- Biological resources – vegetation and wildlife
- Cultural resources
- Earth resources - topography, geology and soils

- Environmental justice
- Hazardous materials and waste management
- Land use
- Noise
- Socioeconomic resources
- Traffic and transportation
- Utilities
- Water resources – groundwater, hydrology and water quality

#### **1.4.1 Organization of the Assessment**

Chapter 2 of this environmental assessment describes the Navy’s proposed action, secondary alternative, and a no-action alternative. Additionally, environmental conditions that were eliminated from detailed analysis are outlined in Chapter 2. Chapter 3 provides an overview of the existing environmental conditions by resource area. Chapter 4 analyzes the consequences of implementing the proposed action, secondary alternative and the no-action alternative by applicable resource areas. Only resources with the potential to be adversely affected are analyzed in detail in Chapters 3 and 4. In addition, Chapter 4 discusses potential cumulative impacts associated with implementation of the proposed action when considered in conjunction with other past, present and future projects.

#### **1.5 Relevant Federal and State Regulations and Statutes**

The representative federal and state regulations and statutes that were considered during the preparation of this environmental assessment are listed in the table in Appendix A.

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## 2.0 Description of Site Requirements, the Proposed Action, and Alternatives

This chapter describes the site and construction requirements for the proposed NOTU facility and the two alternatives that were considered during the preparation of this environmental assessment. Additionally, this chapter addresses environmental conditions that were eliminated from detailed analysis due to the lack of significant impacts.

### 2.1 Site Requirements

To meet the site requirements of an administrative facility, the following criteria must be considered:

- Transportation accessibility
- Utilities – adequate water; sewer; power; and communications
- Lines of sight – Air Force instrumentation; Kennedy Space Center instrumentation; miscellaneous instrumentation systems
- Radio frequency emissions and electromagnetic interference
- Air approach corridors – vertical and horizontal clearances
- Launch impacts – impact limit lines; overflight/flight hazard area; blast danger area; tanking operations
- Cost impacts – demolition of existing structures; installation of new utilities

### 2.2 Proposed Action: New Engineering Services Facility South of Pier Road

As noted in Chapter 1, the proposed action is to construct a new NOTU administrative facility 100 feet south of Pier Road to serve the day-to-day activities of NOTU operations at CCAFS. This site would meet all requirements and criteria described in Sections 1.4 and 2.1 for the administrative facility and site.

Under the proposed action, the project would be located 100 feet south of Pier Road at Facility 74100 and northwest of Facility 1125. Facility 74100 would have to be demolished. Additionally, this site would require the permanent clearing of undisturbed land.

This location has the infrastructure in place for all of the required utilities, as well as meeting the inhabited building distance, public transportation route, and interline distance requirements. However, this site would pose a problem concerning expansion to the east or west. The 45<sup>th</sup> Space Wing (45 SW) proposes to construct an administrative campus area within the vicinity of the proposed action, to consist of four administrative buildings with associated parking lots, a pavilion and retention areas. The primary issue that prohibits construction expansion at this proposed action is the Line of Site directly to the east and west of the proposed site.

Figure 2.1 is a map of the project location and Figure 2.2 shows the proposed action site plan.

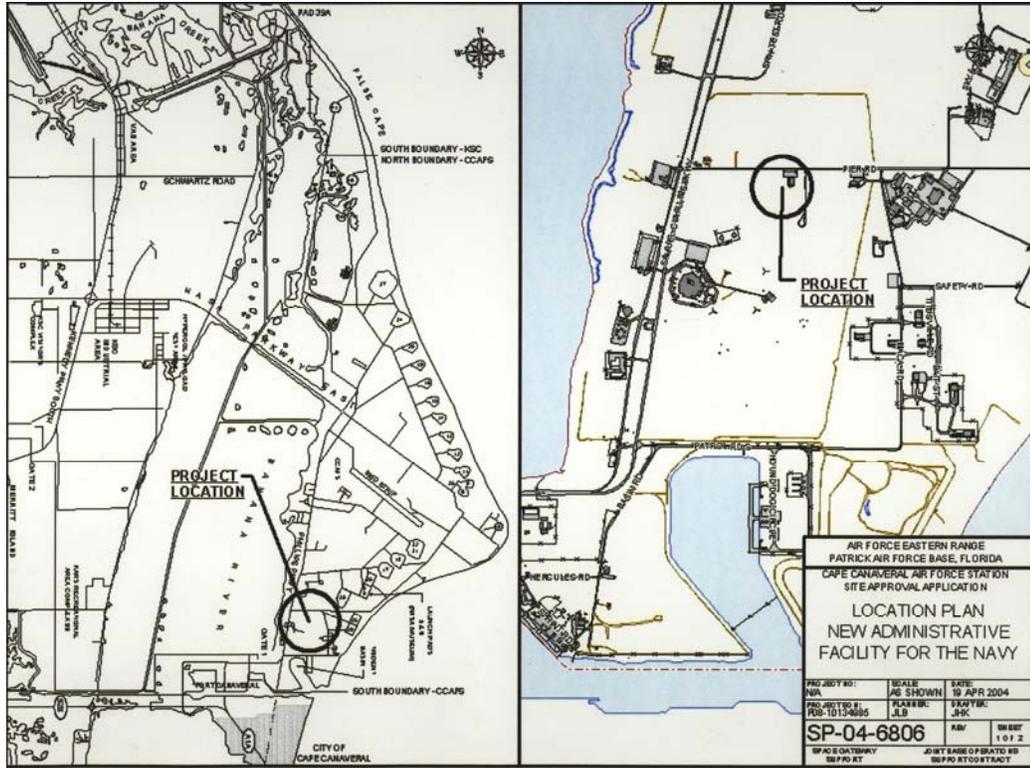


Figure 2-1 Proposed project location

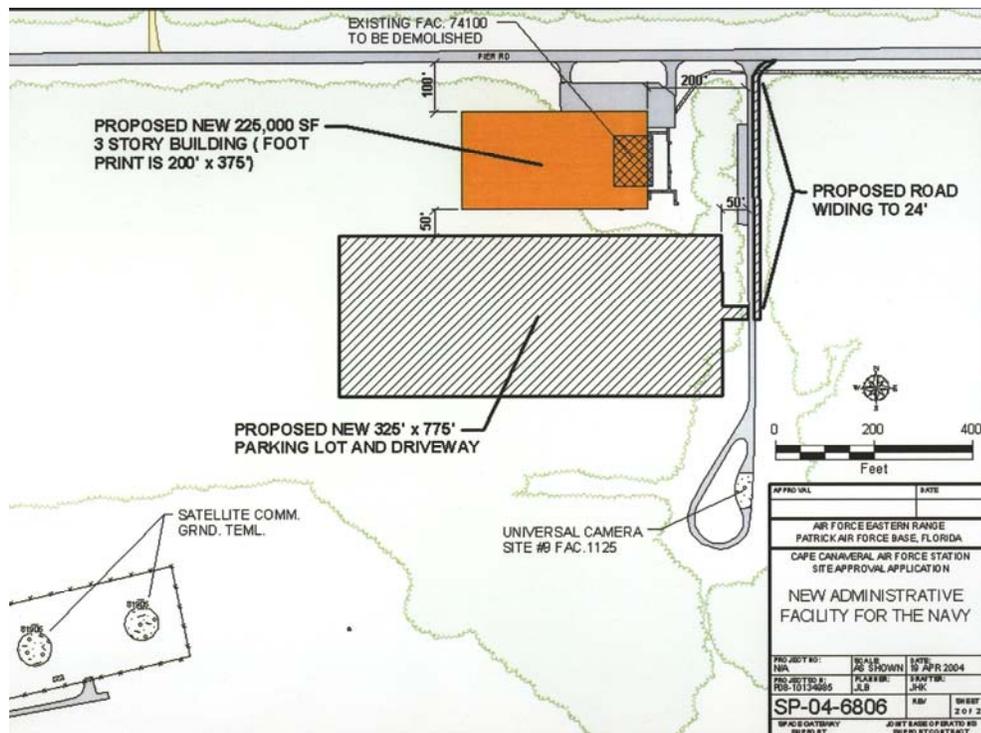


Figure 2-2 Proposed action site plan

### 2.3 Secondary Alternative: New Engineering Services Facility Directly Off Samuel C. Philips Parkway

Under the secondary alternative, the project would be located directly off the Samuel C. Philips Parkway. This site can accommodate a building up to 180 feet in elevation without interfering with airfield clearance requirements and is not within the impact limit lines of any space launch complex. Infrastructure components—electrical power, water supply, sewer, communications lines—are readily available in the vicinity of the site and would not entail excessive disturbance or construction to connect to the proposed facility.

The site meets the inhabited building distance, public transportation route, and interline distance requirements. Additionally, all of the land needed for the construction of the administrative facility is already cleared so no undisturbed vegetation would have to be destroyed. Moreover, the extensive parking area planned is already there. The Navy would not have to create an impervious area to use as a parking area.

No or minimal virgin land would be cleared or disturbed at the secondary alternative site. The requirement for the amount of land to be used in this project is approximately 3.5 acres. The Navy already has over 4 acres cleared where this project is planned. Also, Facility 81701 would be demolished. Figure 2.3 is a map of the secondary alternative project location, and Figure 2.4 shows the secondary alternative site plan.

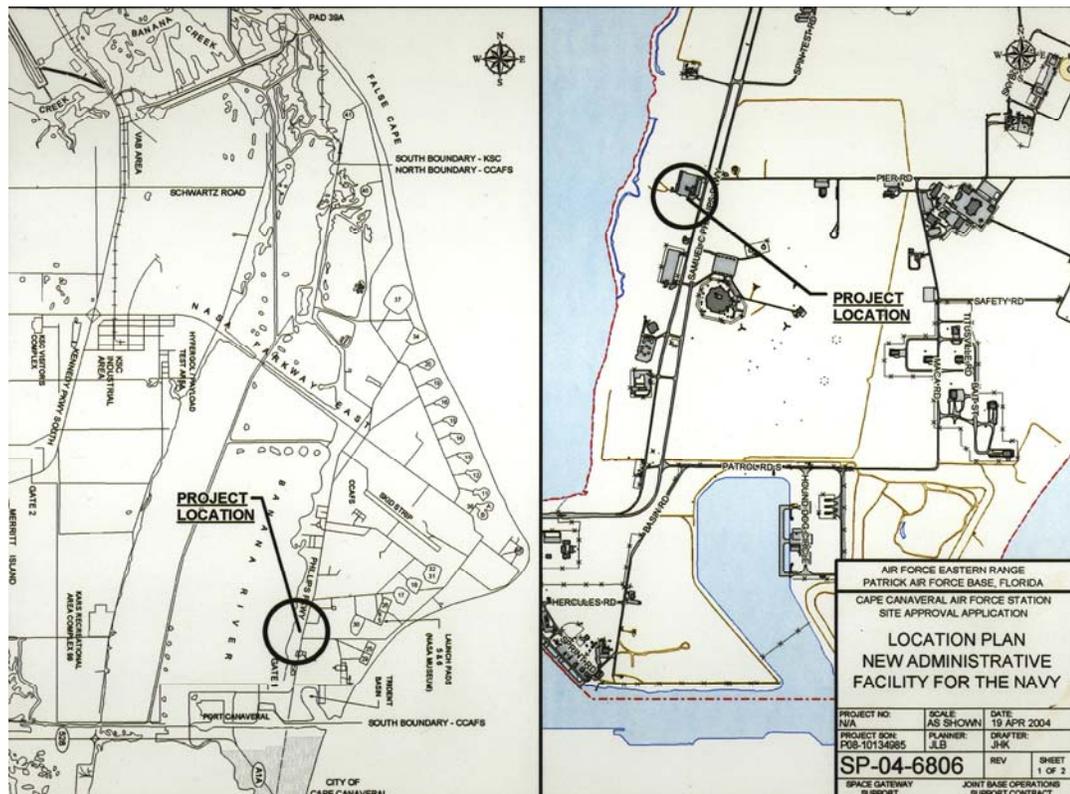


Figure 2-3 Map of the secondary alternative project location

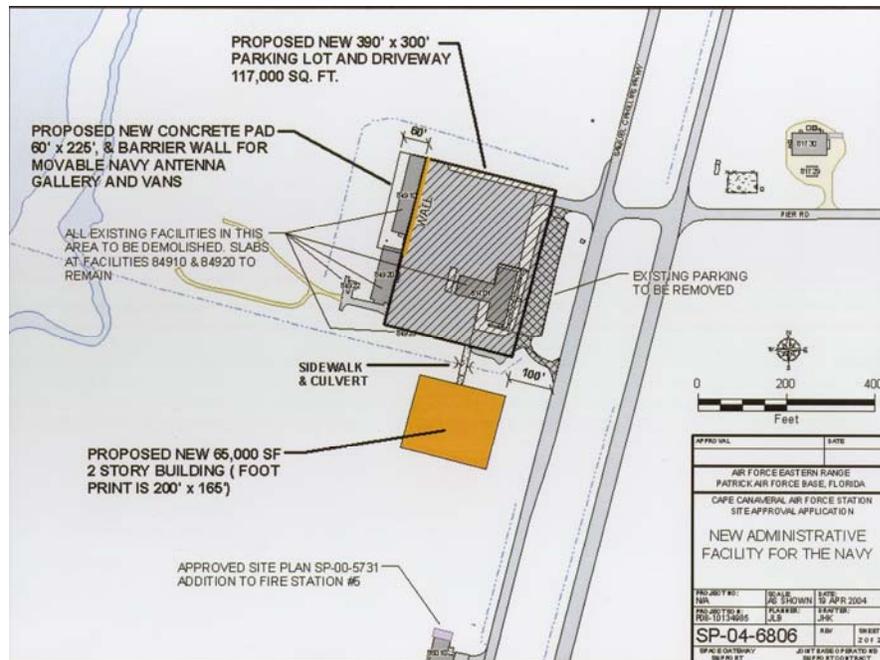


Figure 2-4 Secondary alternative action site plan

## 2.4 No-Action Alternative

Under the no-action alternative, a new administrative facility would not be constructed. Thus, no infrastructure improvements or ground and habitat disturbances would result. Under this alternative, NOTU would be required to keep their administrative services at existing facilities, which would likely require extensive modifications and delays in meeting NOTU program requirements. No adverse impacts would result from the implementation of the no-action alternative.

## 2.5 Issues Eliminated from Detailed Analysis

This section presents the results of the initial analysis of potential environmental consequences associated with the proposed project activities that will not be impacted from implementation of the proposed action (the construction of an administrative facility off of Pier Road), a reasonable alternative (the construction of an administrative facility at Samuel C. Philips Parkway), and no-action alternative (no construction of an administrative facility).

- Aesthetics
- Air Quality
- Coastal Zone Management
- Cultural Resources
- Environmental Justice
- Hazardous Materials and Waste
- Recreation
- Socioeconomics

- Traffic and Transportation
- Utilities (Electricity, Solid Waste, Water)

A region of influence (ROI) is the geographical area within which a federal action, program or activity may cause changes in the natural or manmade environment. The ROIs are described under each of the aforementioned resources, as applicable.

### 2.5.1 Aesthetics

The ROI for aesthetics at CCAFS includes the general visual environment surrounding CCAFS and areas of CCAFS visible from off-station areas. The barrier island on which it is located characterizes the visual environment in the vicinity of CCAFS. The Indian and Banana rivers separate the barrier island from the mainland. As noted earlier, the topography of the island is generally flat, with elevations ranging from sea level to approximately 20 feet above sea level. The landscape is dominated by Florida coastal strand, coastal scrub, and coastal dune vegetation. The most visually significant aspect of the natural environment is the gentle coastline and flat island terrain. The area has a low visual sensitivity because the flatness of the area limits any prominent vistas. CCAFS is relatively undeveloped.

The most significant man-made features are the launch complexes and various support facilities. These developed areas are surrounded by disturbed grasses, oak hammocks, and scrub vegetation. Most of CCAFS outside of the developed areas is covered with native vegetation. Since public access to CCAFS is prohibited, viewpoints are primarily limited to marine traffic on the east and west and distant off-site beach areas, and small communities to the south. However, marine traffic is limited and public observation of the coastline is infrequent. Marine traffic consists mainly of transportation and fishing vessels, pleasure boats, and cruise ships. From the south, launch complexes can be viewed from various beach areas and small communities including Port Canaveral and the cities of Cape Canaveral and Cocoa Beach. Additionally, from KSC (north and west of CCAFS), views of the launch complexes are available to a limited population.

Neither the proposed action nor the secondary alternative is expected to adversely affect recreation. Under the no-action alternative, the proposed administrative facility would not be constructed; therefore, no impacts to aesthetics would occur.

### 2.5.2 Air Quality

Air quality for CCAFS is regulated under Title 40 CFR 50 (National Ambient Air Quality Standards), Title 40 CFR 61 and 63 (National Emission Standards for Hazardous Air Pollutants), Title V of the Clean Air Act, 42 U.S.C. 7401-7671 (Operating Permits), 40 CFR 82 (The Federal Stratospheric Ozone Protection Program), and Florida Administrative Code 62-204.240 seq. (Florida Ambient Air Quality Standards). Existing air quality is defined as either being "in attainment" or "in non-attainment." An area with ambient air quality better than the National Ambient Air Quality Standards is designated as being in attainment, whereas areas that do not meet the minimum standards are classified as being in non-attainment. In Florida, regional air quality is assessed at the county level. CCAFS is located within Brevard County. The U.S. Environmental Protection Agency and the Florida Department of Environmental Protection have designated Brevard County as being in attainment for all criteria

pollutants.

Both the proposed action and the secondary alternative could result in short-term adverse impacts to the air quality within the immediate area of construction activities. Construction-related adverse impacts could result from construction equipment (exhaust emissions) and construction activities (fugitive dust emissions) over the construction period. Emissions generated by construction activities would be in the form of either gaseous or particulate pollutant emissions. Gaseous emissions would occur from heavy-duty construction equipment and vehicle travel to and from the site by construction workers. Emissions would consist primarily of combustion products. Particulate matter in the form of dust emissions would also be generated during the construction phase from excavation, earth moving, construction of buildings, and traffic on unpaved surface areas.

The scope of construction and resulting air emissions are not expected to be of a magnitude that would result in significant adverse impacts. CCAFS is located in an area that is in attainment for all criteria air pollutants; therefore, a conformity determination is not required.

Although no significant impacts have been identified, implementing standard procedures, such as vigorous water application during ground-disturbing activities, could reduce emissions. Decreasing the time period during which newly graded sites are exposed to the elements, coupled with the use of windbreaks, could further minimize airborne dust concentrations. Efficient scheduling of equipment use, implementation of a phased construction schedule to reduce the number of units operating simultaneously, and performance of regular vehicle engine maintenance could reduce combustive emission and air quality effects from construction activities by 10 to 25 percent. Selecting coatings with low volatile organic compounds content could reduce emissions from architectural coatings.

Under the no-action alternative, the proposed administrative facility would not be constructed. Thus, no impacts to air quality would result from construction activities.

### **2.5.3 Coastal Zone Management**

Federal activity in, or affecting, a coastal zone requires preparation of a Coastal Zone Consistency Determination, in accordance with the federal Coastal Zone Management Act of 1972, as amended (P.L. 92-583) and implemented by the National Oceanic and Atmospheric Administration. This act was passed to preserve, protect, develop and, where possible, restore or enhance the nation's natural coastal zone resources, including wetlands, floodplains, estuaries, beaches, dunes, barrier islands, coral reefs, and fish and wildlife and their habitat.

The Florida Coastal Management Program, formed by the Florida Coastal Management Act, applies to activities occurring in or affecting the coastal zone in Brevard County. The entire state of Florida is defined as being within the coastal zone. For planning purposes, a "no development" zone has been established. In Brevard County, the no development zone extends from the mean high water level inland 75 feet. CCAFS has additional construction siting and facility design standards that require that facilities be set back at least 150 feet from the coast. The Florida Department of Community Affairs is the lead coastal management agency in the state.

The U.S. Air Force is responsible for making the final coastal zone consistency determinations for its activities within the state, and the Florida Department of Community Affairs reviews coastal zone consistency determinations.

Neither the proposed action nor the secondary alternative lies within the Florida Coastal Management Act no-development zone; therefore, construction of either facility is consistent with the Act. In addition, the contractor would coordinate with 45th Space Wing Civil Engineering before the design of facilities to ensure adherence to all siting standards. Under the no-action alternative, the proposed administrative facility would not be constructed. Thus, no impacts to land use would occur.

#### **2.5.4 Cultural Resources**

Cultural resources include prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reasons. Numerous laws and regulations require that possible effects to cultural resources be considered during the planning and execution of federal undertakings.

These laws and regulations stipulate a process of compliance, define the responsibilities of the federal agency proposing the action, and prescribe the relationship among other involved agencies such as the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

In addition to NEPA, the primary laws that pertain to the treatment of cultural resources during environmental analysis are the National Historic Preservation Act (especially Sections 106 and 110), the Archaeological Resources Protection Act, the American Indian Religious Freedom Act, and the Native American Graves Protection and Repatriation Act. Only those cultural resources determined to be potentially significant under the above-cited legislation are subject to protection from adverse impacts resulting from an undertaking.

To be considered significant, a cultural resource must meet one or more of the criteria established by the National Park Service that would make that resource eligible for inclusion in the National Register of Historic Places [National Register]. The term "eligible for inclusion in the National Register" includes all properties that meet the National Register listing criteria, which are specified in the Department of the Interior regulations 36 CFR 60.4 and National Register Bulletin 15. Therefore, sites not yet evaluated may be considered potentially eligible for inclusion in the National Register and, as such, are afforded the same regulatory consideration as nominated properties. Whether prehistoric, historic, or traditional, significant cultural resources are referred to as "historic properties."

For the purposes of this analysis, the term ROI is synonymous with the "area of potential effect" as defined under cultural resources legislation. In general, the ROI for cultural resources encompasses all areas requiring ground disturbance.

Facility 74100 at the proposed action site is not considered a historical site and the closest archaeological site is over 1000 ft. away. None of the facilities surrounding Facility 81701 are considered historic at the secondary alternative site. Additionally, the nearest archaeological site is more than 25 feet to the west of the secondary

alternative site and would have no effect from the activities at the site.

No adverse impacts to cultural resources are expected from the proposed action. In the event of an accidental discovery of any archaeological resources, work would cease on the project and the 45th Space Wing Cultural Resources Manager would be notified. There are not expected to be adverse impacts to any archeological or historical sites at either location but in the advertent discovery the same mitigating actions would occur as those for the proposed action in the event of an accidental discovery of any archaeological resources. Under the no-action alternative, the proposed administrative facility would not be constructed. Thus, no impacts to cultural resources would occur.

## **2.5.5 Environmental Justice**

On February 11, 1994, Executive Order 12898, *Environmental Justice*, was issued. A Presidential Transmittal Memorandum accompanying this Executive Order states that “Each Federal agency shall analyze the environmental effects, including human health, economic, and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by the NEPA 42 U.S.C. Section 4321, et seq.” Under 32 CFR Part 989.33, environmental justice analyses, as specified in the Executive Order, are to be included in U.S. Air Force NEPA documents.

The 2000 Census of Population and Housing reports numbers of both minority and property residents. Minority populations included in the census are identified as Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Hispanic or Latino, and Other. Poverty status is reported as the number of families with income below the federal poverty level. The federal poverty level in 1999 for a family of four in the lower 48 states was \$17,029.

Most environmental impacts resulting from the proposed action at CCAFS would be expected to occur within Brevard County, Florida. Based on the 2000 Census of Population and Housing, Brevard County had a population of 476,230 persons. Of this total, 77,625 persons, or 16.3 percent, were minority, and 45,242 persons, or 9.5 percent, were below the poverty level.

The proposed action or the secondary alternative would occur within the boundaries of CCAFS. No minority or low-income populations reside within these areas. The project is not expected to cause any disproportionately high or adverse impacts to low-income or minority populations. Under the no-action alternative, the administrative facility would not be constructed. Thus, there would be no environmental justice issues.

## **2.5.6 Hazardous Materials and Waste Management**

In this section hazardous materials management, hazardous wastes management, and the Installation Restoration Program (IRP) are discussed.

### **2.5.6.1 Hazardous Material Management**

CCAFS uses a variety of hazardous materials during daily operations. These materials range from common building paints to industrial solvents and hazardous

fuels and propellants. Hazardous materials are those substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. Sections 9601-9675), the Toxic Substances Control Act (15 U.S.C. Sections 2601-2671), and the Hazardous Materials Transportation Act (49 U.S.C. Section 1801, Parts 172-173). In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare, or to the environment, when released. AFI 32-7086, *Hazardous Materials Management*, and FED-STD-313D, *Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government*, establish procedures and standards that govern management of hazardous materials on Air Force installations.

Spills of hazardous materials are covered under the 45 SW Full Spectrum Response Plan (FSTR) 10-2, Volume II, *Hazardous Material (HAZMAT) Emergency Planning and Response*, dated March 2005, which establishes roles and responsibilities, outlines regulatory guidelines, directs specific activities of personnel responding to an incident and assists in planning the prevention of accidental releases (45 SW 2005b).

For both the proposed action and the secondary alternative, the potential for adverse impacts to the natural environment exists. Hazardous materials, primarily in the form of petroleum, oil, and lubricants, would be used for operating the construction equipment. The potential exists for unexpected releases of the aforementioned materials. The construction contractor is responsible for implementing the procedures outlined in the 45 SW FSTR 10-2, Volume 11, as appropriate. Under the no-action alternative, the administrative facility would not be constructed. Thus, no impacts would occur as a result of hazardous materials use.

### 2.5.6.2 Hazardous Waste Management

Hazardous wastes are generated on CCAFS. The collection, management, transportation, and disposition of these hazardous wastes are defined and strictly regulated by the Resource Conservation and Recovery Act [42 U.S.C. subsection 6901] and the Federal Hazardous and Solid Waste Amendments of 1984, as amended, and by applicable federal and state regulations. AFI 32-7042, *Solid and Hazardous Waste Compliance*, defines the Air Force's hazardous waste program requirements. O-Plan 19-14, *Waste Petroleum Products and Hazardous Waste Management Plan*, establishes the specific procedures and requirements for the management of hazardous waste at CCAFS.

Hazardous waste and other regulated waste (i.e. used oil) may be generated during construction activities. These wastes shall be managed on site in accordance with OPlan 19-14 to prevent potential adverse impacts to the environment. Under the no-action alternative, the administrative facility would not be constructed. Thus, no impacts would occur as a result of hazardous waste generation.

### 2.5.6.3 Installation Restoration Program

The Installation Restoration Program (IRP) is an Air Force program that identifies, characterizes, and remediates past environmental contamination on Air Force installations. The program has established a process to evaluate past disposal sites,

control the migration of contaminants, and control potential hazards to human health and the environment. In response to the Comprehensive Environmental Response, Compensation, and Liability Act and Section 211 of the Superfund Amendments and Reauthorization Act requirements, the DoD established the Defense Environmental Restoration Program to facilitate clean up of past hazardous waste disposal and spill sites nationwide.

Section 105 of the Superfund Amendments and Reauthorization Act mandates that response actions follow the National Oil and Hazardous Substances Pollution Contingency Plan, as promulgated by the U.S. Environmental Protection Agency. AFI 32-7020, *The Environmental Restoration Program*, implements the Defense Environmental Restoration Program as outlined in DoD Manual 5000.52-M, *Environmental Restoration Program Manual*.

There is no known soil or groundwater contamination or monitoring wells in the proposed action site (T. Fiorillo, personal communication, Jan. 2006). The secondary alternative site has monitoring wells listed as Long Term Monitoring for groundwater contamination. Figure 2.5 shows the IRP map for the monitoring wells at the secondary alternative site. Any activities that would impact a monitoring well would be coordinated with the IRP Program Manager.

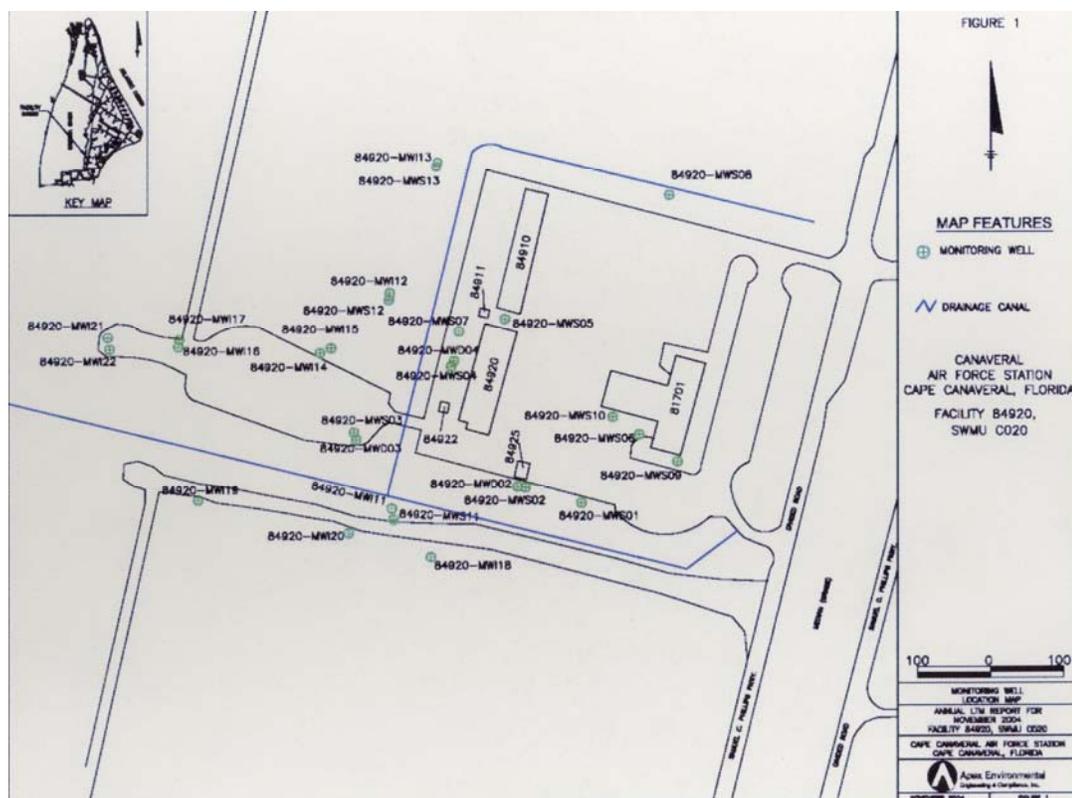


Figure 2-5 Monitoring wells for the secondary alternative site

## 2.5.7 Recreation

Recreational activities near CCAFS center mainly around the coastal beaches and large expanses of inland waters in the Indian, Banana, and St. John's rivers and large

freshwater lakes. Boating, surfing, water skiing, and fishing are common activities. Brevard County provides several parks within the area surrounding CCAFS. Jetty Park is situated immediately south of Port Canaveral on the beach and is the only park in the area that allows overnight camping. Public parks in the region are not affected by launch activities from CCAFS. The beaches along CCAFS are used for launch operations and are therefore restricted from public use. Recreational fishing is allowed only for badged personnel on the southern side of Space Launch Complex 34, Camera Road A, and the Trident and Poseidon Basins.

Neither the proposed action nor the secondary alternative is expected to adversely affect recreation. Under the no-action alternative, the proposed administrative facility would not be constructed; therefore, no impacts to recreation would occur.

### **2.5.8 Socioeconomics**

In the 1950s, several agencies began launching rockets from Cape Canaveral. The only other local activities of significance were fishing and citrus farming. At its peak during the Apollo era in 1968, the space industry employed nearly 30 percent of Brevard County's work force. This gave Brevard County a legacy that labels this region the "Space Coast." While the Brevard economy has diversified, the space program still accounts for roughly 8 percent of local employment.

Statewide, the space industry employs 43,000 workers with 27,000 employees working directly on CCAFS and at KSC. The presence of these employees causes a chain of economic reactions throughout the local region and nearby counties. It is estimated that each job created within the space industry generates two additional jobs within the region. Post World War missile testing at CCAFS; the NASA manned space program; and various military, government, and commercial space launch activities (in combination with nearby Patrick Air Force Base) stimulated economic growth in this region. This dominant economic force generates well over \$4 billion in the Florida economy annually (Enterprise Florida).

CCAFS employees contribute to the local economy through salaries, payroll taxes, and spending. According to the Cape Commander's web site, approximately 10,000 people are badged to work on the Cape with an average annual salary of approximately \$43,000 (Enterprise Florida), for a total economic result of \$430 million dollars. It is estimated that for every dollar spent in the local community, it is re-spent between 4 to 8 times before it eventually drops out of the system due to taxes, savings, or being spent out of the local area.

Since the magnitude of this project is small, it is anticipated that all work would be accomplished by already employed personnel working in the local or nearby areas; therefore, no adverse impacts to the local population and employment are expected to result from implementation of the proposed action, the secondary alternative, or the no-action alternative.

### **2.5.9 Traffic and Transportation**

The majority of the employees and other related support services providers for CCAFS reside within the unincorporated areas of Brevard County and in the cities of Cape Canaveral, Cocoa, Cocoa Beach, Rockledge, and Titusville, which are all within 14

miles of the installation. The key local roads providing access to CCAFS from KSC and the local communities include state roads A1A, 520, 528, 401, 3, and 405. The NASA Causeway and Beach Road connect KSC and CCAFS.

The major on-site roadway on CCAFS is Samuel C. Philips Parkway, a 4-lane divided highway that accommodates most of the north-south traffic. At its intersection with Skid Strip Road, Samuel C. Philips Parkway becomes a one-way northbound arterial, with Hangar Road serving as the southbound arterial. To the north and south of CCAFS, Samuel C. Philips Parkway becomes State Road 401.

Construction traffic associated with the proposed action or the secondary alternative is not expected to adversely affect traffic within CCAFS given the small magnitude of the proposed project. Likewise, the proposed project is not expected to adversely affect Brevard County traffic and public transportation. Under the no-action alternative, the proposed administrative facility would not be constructed. Thus, no impacts to traffic and transportation would occur.

## **2.5.10 Utilities**

The utilities section includes a discussion of the electrical system, solid waste removal, and the water system.

### **2.5.10.1 Electricity**

Florida Power and Light provides power and lighting transmission systems for both CCAFS and KSC. The Air Force owns the distribution system. Together CCAFS and KSC have a total capacity of 216,000 kilovoltampere, with CCAFS having 95,000 kilovoltampere of this total capacity. Primary service is provided using 115-kilovolt transmission lines owned and maintained by Florida Power and Light. Patrick Air Force Base negotiates power supplied by Florida Power and Light for itself, CCAFS, and KSC. KSC then reimburses the Air Force for the power used.

There are approximately 360 miles of primary and secondary distribution lines, 170 miles overhead and 190 miles underground. Overhead-to-underground transition occurs primarily at roadway crossings.

Increases in electrical consumption during construction are expected to be minimal. Therefore, no adverse impacts to electrical consumption are expected. Under the no-action alternative, the proposed administrative facility would not be constructed; therefore, no impacts to electrical consumption would occur.

### **2.5.10.2 Solid Wastes**

The Joint Base Operating Support Contract (JBOSC) contractor operates two permitted landfill facilities, one for the Air Force on CCAFS and one for NASA at KSC. The Air Force landfill, located on CCAFS just north of the Skid Strip, is permitted as both a construction and demolition debris landfill and as an asbestos monofill.

The second permitted facility is a Class III landfill located on KSC. The KSC landfill is permitted to accept construction and demolition debris plus other approved non-hazardous, non-leachable solid waste. Based on waste control and cost concerns,

NASA and the Joint Base Operating Support Contract contractor have entered into a contract that diverts all KSC general trash to the Brevard County landfill.

Solid waste generated over the duration of the construction of either the proposed action or the secondary alternative would include packaging from materials (cardboard and plastic), scrap rebar, and miscellaneous waste generated by onsite construction workers. The contractor would be responsible for the disposal and/or recycling of all waste generated during the scope of the project. Miscellaneous unrecyclable wastes generated during construction will be disposed of off base by the contractor. Soils removed from the project site would be transported to a designated site. Falsework used during the project would be reused or recycled by the contractor. Therefore, neither the proposed action nor the secondary alternative would have adverse impacts on solid waste management at CCAFS. Under the no-action alternative, the proposed administrative facility would not be constructed. Thus, no impacts to solid waste would occur.

### 2.5.10.3 Water

Because large sections of the CCAFS water system were installed before the establishment of the Clean Water Act and the Safe Drinking Water Act, the water quality does not meet these newer standards. As noted earlier, to ensure “clear, potable water safe for human consumption,” the 45th Space Wing has contracted with the City of Cocoa to provide the capacity of 5 millions of gallons a day to CCAFS and KSC from the Claude H. Dyal Water Treatment Plant, located 15 miles west of Cocoa along State Road 520 near an artesian well field in Orange County. For further discussion, see section 3.4.5 of this document.

During construction of both the proposed action and the secondary alternative, average daily water consumption on CCAFS would increase slightly. However, no adverse impacts are anticipated during construction. Wastewater generation would also increase during the construction period; however, the expected increase can be absorbed by the existing system, and no adverse impacts are anticipated. Under the no-action alternative, the proposed administrative facility would not be constructed; therefore, no impacts to water consumption and wastewater generation would occur.

## 2.5.11 Water Resources

Water resources include groundwater and surface water and their physical, chemical, and biological characteristics. This section addresses the physical and chemical factors that influence water quality and surface runoff. The ROI for groundwater includes the local aquifers that are directly or indirectly used by CCAFS. The ROI for surface water is the drainage system/watershed in which CCAFS is located.

### 2.5.11.1 Groundwater

Two aquifer systems underlie CCAFS: the surficial and the Floridan aquifer systems. The surficial aquifer system, which comprises generally sand and marl, is under unconfined conditions and is approximately 70 feet thick. The water table in the aquifer is generally a few feet below the ground surface. Recharge to the surficial aquifer is principally by percolation of rainfall and runoff. Groundwater in the surficial aquifer at CCAFS generally flows to the west, except along the extreme eastern coast

of the peninsula.

A confining unit composed of clays, sands, and limestone separates the surface aquifer from the underlying Floridan aquifer. The confining unit is generally 80 to 120 feet thick. The relatively low hydraulic conductivity of the confining unit restricts the vertical exchange of water between the surface aquifer and the underlying confined Floridan aquifer. The Floridan aquifer is the primary source of potable water in central Florida and is composed of several carbonate units with highly permeable zones. The top of the first carbonate unit occurs at a depth of approximately 180 feet below ground surface, and the carbonate units extend to a depth of several hundred feet. Groundwater in the Floridan aquifer at CCAFS is highly mineralized.

CCAFS receives its potable water from the city of Cocoa, which pumps water from the Floridan aquifer. According to the General Plan (45th Space Wing, 1995), this water supply is more than adequate to meet usage demands and water quality standards.

Groundwater is not used as a source of potable drinking water. The water quality is considered poor due to elevated levels of total dissolved solids, which exceed secondary drinking water regulations; high levels of chlorides and sulfates; and the presence of volatile chlorinated solvents. Furthermore, the surficial aquifer is not capable of producing large volumes of water. Neither the proposed action nor the secondary alternative is expected to adversely impact groundwater quality or alter the hydrogeologic characteristics of the surficial aquifer. Under the no-action alternative, the proposed facility would not be constructed; therefore, no impacts to groundwater would occur.

### **2.5.11.2 Surface Water**

CCAFS is situated on a barrier island that separates the Banana River from the Atlantic Ocean. CCAFS is within the Florida Middle East Coast Basin. This basin contains three major bodies of water in proximity to CCAFS—the Banana River to the immediate west, the Mosquito Lagoon to the north, and the Indian River to the west, separated from the Banana River by Merritt Island. All three water bodies are estuarine lagoons, with circulation provided mainly by wind-induced currents. Surface drainage at CCAFS generally flows to the west into the Banana River, even near the eastern side of the peninsula.

Several water bodies in the Middle East Coast Basin have been designated as Outstanding Florida Water in Florida Administrative Code 62-3, including most of the Mosquito Lagoon and the Banana River, the Indian River Aquatic Preserve, the Banana River State Aquatic Preserve, Pelican Island National Wildlife Refuge, and Canaveral National Seashore. These water bodies are afforded the highest level of protection, and any compromise of ambient water quality is prohibited. The Indian River Lagoon System has also been designated an Estuary of National Significance by the U.S. Environmental Protection Agency. Estuaries of National Significance are identified to balance conflicting uses of the nation's estuaries while restoring or maintaining their natural character.

The Banana River has been designated a Class III surface water, as described by the Clean Water Act. Class III standards are intended to maintain a level of water quality suitable for recreation and the production of fish and wildlife communities. There are

no wild and scenic rivers located on or near CCAFS.

For both the proposed action at Pier Road and the secondary alternative at Philips Parkway, there are no surface bodies of water within the ROI. Under the no-action alternative, the proposed administrative facility would not be constructed. Thus, no impacts to water resources would result.

### 2.5.11.3 Wetlands and Floodplains

Wetlands are defined by the United States Fish and Wildlife Service as lands where saturation with water is the dominant factor in determining the nature of the soil and the types of plant and animal communities present. CCAFS is in the unique position of having a mixture of fresh, salt, and brackish wetlands. These communities include mangrove estuaries and shorelines, salt marshes, freshwater wetlands, brackish water impoundments, and drainage canals, all of which support various fish, waterfowl, wading birds, reptiles, and amphibians.

The Banana River and the Atlantic Ocean also provide saltwater habitat for shoreline and submerged plant species and wildlife, although they are not under the jurisdiction of the Air Force. Each wetland category requires review prior to construction to ensure compliance with the NEPA regulations that contain special clauses pertaining to wetlands. If work is planned in a wetland, consultation with the U. S. Army Corps of Engineers and the St. John's River Water Management District (SJRWMD) is required and mitigation may also be required.

Floodplains are lowland and relatively flat areas adjoining inland and coastal waters that are subject to flooding. The 100-year floodplain is subject to a 1-percent or greater chance of flooding in any given year. On CCAFS, the 100-year floodplain extends 7 feet above mean sea level on the Atlantic Ocean side, and 4 feet above mean sea level on the Banana River side.

The proposed action and secondary alternative sites are not located within a wetland or a floodplain (45<sup>th</sup> Space Wing, 2002). Under the no-action alternative, the proposed administrative facility would not be constructed; therefore, no impacts to wetlands or floodplains would occur.

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### 3.0 Description of the Affected Environmental Setting

This chapter describes the environmental setting where the proposed action is planned. For each resource area, a region of influence (ROI) was established. The ROI is the geographic area within which a federal action, program, or activity may cause changes in the natural or man-made environment. The ROIs are described under each of the resources analyzed.

#### 3.1 Biological Resources

CCAFS occupies 15,804 acres of coastal habitat on a barrier island complex that parallels the mid-Atlantic coast of Florida. The most prominent geographical features at CCAFS, besides the cape itself, are a series of ridges and swales that parallel ancient and current coastlines and support ecologically significant natural communities.

Barrier islands are ecosystems that support many species of plants and animals. Along the Atlantic coast of the United States, barrier islands are especially important to nesting sea turtles, populations of small mammals, and as foraging and roosting habitat for a variety of resident and migratory birds.

The biological resources examined include vegetation, wildlife, threatened and endangered species, and species of special concern. The ROI for vegetation covers the land area directly affected by construction activities associated with the project and extends 50 feet beyond the construction disturbance limit, to account for potential effects on vegetation within the vicinity of the project area. The ROI for threatened and endangered species and species of special concern covers the entire Air Force Station due to the potential cumulative impacts associated with other projects.

##### 3.1.1 Vegetation

Historically, CCAFS has had a relatively small human population, resulting in minor changes to native vegetation and some introduction of non-native species such as Brazilian Pepper trees that are a significant problem as an invasive exotic. As a result of human habitation and development of the installation as a spaceport, approximately 60 percent of CCAFS acreage consists of undeveloped areas, with vegetation indigenous to the Florida coastline.

The most common vegetative communities on CCAFS are the indigenous Florida coastal scrub (including oak and rosemary scrub), and xeric and maritime hammocks. Coastal strand, coastal dune, and grasslands can be found along the 13 miles of shoreline along the Atlantic Ocean. Sea grasses are found in the nearby rivers. Numerous wetlands and associated vegetation communities including hydric hammock, interdunal swales, and estuarine tidal swamps and marshes can be found on CCAFS and its 12-mile shoreline along the Banana River. The remaining areas are associated with the cleared launch complexes and support facilities (45th Space Wing, 2001).

Oak scrub on CCAFS occupies the highest, driest habitats. Oak scrub consists of densely growing shrubs that include myrtle oak (*Quercus myrtifolia*), sand live oak

(*Quercus geminata*), saw palmetto (*Serenoa repens*), and Chapman oak (*Quercus chapmanii*). The dominant vegetation in the area of the proposed action is overgrown oak scrub. Other plant species that can occur in scrub are sand pine (*Pinus clausa*) and Florida hickory (*Carya floridana*). Sand pine does not occur in any other community on CCAFS and is therefore considered indicative of scrub.

Saw palmetto is abundant in oak scrub, forming a dense shrub layer in many areas. Other shrub species found frequently in oak scrub are rusty lyonia (*Lyonia ferruginea*), wax myrtle (*Myrica cerifera*), hog plum (*Ximenia americana*), and shiny blueberry (*Vaccinium myrsinites*). Herb species diversity is high along the edges of scrub and in open clearings. Such areas frequently contain herbs such as silky golden aster (*Pityopsis graminifolia*), October-flower (*Polygonella polygama*), clammy weed (*Polanisia tenuifolia*), gopher apple (*Licania michauxii*), partridge pea (*Chamaecrista fasciculata*), and false foxglove (*Agalinis setacea*). Vines are often abundant in oak scrub. Muscadine grape (*Vitis rotundifolia*), Calusa grape (*V. shuttleworthii*), catbrier (*Smilax auriculata*), and Virginia creeper (*Parthenocissus quinquefolia*) are found in most scrubs.

Oak scrub is a fire-maintained community with hot, intense fires occurring every 20 to 80 years. Fire suppression over the years has resulted in a densely vegetated scrub that, if burned, may result in a catastrophic fire that could completely remove the vegetation from the area. The Integrated Natural Resources Management Plan for CCAFS includes a burn plan to manage scrub oak. Openings and edges in oak scrub, where fire or mechanical removal of trees has exposed bare sand, can support a number of rare plant species (Florida Natural Areas Inventory, 1996b).

### 3.1.2 Wildlife

The various habitats on CCAFS support a wide variety of animal species, including amphibians, reptiles, mammals, and migratory and native birds. Many of these species use more than one habitat type. Common wildlife species that would be expected to occur within the oak scrub habitat of CCAFS include Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), Eastern spotted skunk (*Spilogale putorius*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), Southeastern pocket gopher (*Geomys pinetis*), Eastern cottontail rabbit (*Sylvilagus floridanus*), brown anole (*Anolis sagrei*), and Southern black racer (*Coluber constrictor*).

In addition, numerous species of birds that are federally protected by the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703-712), occur on or near the site for the proposed project. The Migratory Bird Treaty Act provides federal protection to all native avian species, their nests, eggs, and unfledged young. Bird species that are likely to occur include mourning dove (*Zenaida macroura*), house wren (*Troglodytes aedon*), loggerhead shrike (*Lanius ludovicianus*), brown thrasher (*Toxostoma rufum*), and Eastern towhee (*Pipilo erythrophthalmus*).

Florida scrub jay habitat is part of an ecosystem that supports some of the 13 different threatened and endangered species, including the Florida scrub jay on CCAFS. Threatened and endangered species and their habitats receive maximum protection regarding new development and land use. The 45th Space Wing Integrated Natural Resources Management Plan provides guidance and mitigation of properties needed for construction.

### 3.2 Threatened and Endangered Species and Species of Special Concern

Openings and edges in oak scrub, where oaks have been mechanically removed and bare sand is exposed, support a number of rare animal species. The oak scrub surrounding the proposed project area supports three threatened species: Eastern indigo snake (*Drymarchon corais couperi*), the Florida scrub jay (*Aphelocoma coerulescens*) and the gopher tortoise (*Gopherus polyphemus*). In addition, recent surveys at CCAFS suggest that the Southeastern beach mouse also has the potential to occur within the proposed project area (Chambers, 2004). Table 3.1 shows threatened and endangered species and species of special concern with the potential to occur within the proposed action and secondary alternative sites.

**Table 3-1 Threatened and Endangered Species and Species of Special Concern**

Common Name <i>Scientific Name</i>	Designated Status*		Potential for Occurrence at Proposed Action Site	Potential for Occurrence at Secondary Alternative Site
	FWC	USFWS		
Eastern indigo snake <i>Drymarchon corais couperi</i>	T	T	Potential to occur	Potential to occur
Florida scrub jay <i>Aphelocoma coerulescens</i>	T	T	Potential to occur	Potential to occur
Southeastern beach mouse <i>Peromyscus polionotus niveiventris</i>	T	T	Does not occur	Does not occur
Gopher tortoise <i>Gopherus polyphemus</i>	SSC		Potential to occur	Potential to occur

\*FWC – Florida Fish and Wildlife Conservation Commission      USFWS – U.S. Fish and Wildlife Service  
T – Threatened      SSC – Species of Special concern

#### 3.2.1 Eastern Indigo Snake

The longest of North American snakes (up to 8.6 feet), the Eastern indigo snake is locally abundant in parts of Florida, but as a top carnivore, population densities are typically low. The Eastern indigo snake has been found on CCAFS and likely occurs throughout CCAFS. This primarily diurnal snake is known to occur in most types of habitat and is often associated with gopher tortoise burrows, which it occupies when inactive. The reproductive season encompasses copulation (November through April), egg laying (May through June), and hatching (late July through October). Home ranges for male indigos range from 191 to 360 acres and for females, between 14 and 130 acres (U.S. Air Force, 2002). Major threats to the indigo snake on CCAFS are habitat loss and vehicle traffic.

It is possible the proposed action habitat could support the Eastern indigo snake; however, none have been observed during recent site visits (45SW 2005). Additionally, the Eastern indigo snake has the potential to occur at the secondary alternative site; however, no Eastern indigo snakes have been observed during recent site visits (A. Chambers, personal communication, Jan. 2006).

#### 3.2.2 Florida Scrub Jay

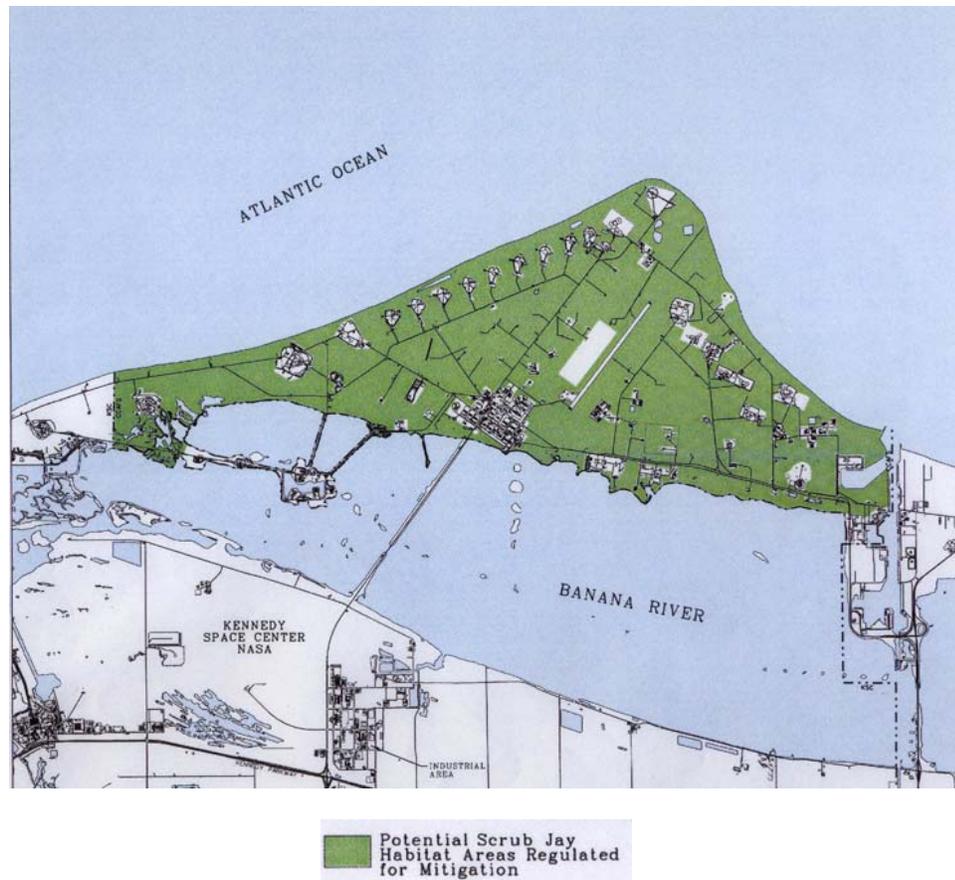
The majority of scrub jay habitats are located on coastal barrier islands and

excessively drained upland sand ridges. Developers also favor these areas. The United States Fish and Wildlife Service has determined that CCAFS is a core scrub jay area and highly valuable to the recovery of the species. The habitat at CCAFS is unique because it is the only coastal barrier island with a scrub jay population. Due to the importance of this habitat, virtually any construction at CCAFS will require mitigation to prevent habitat loss.

The habitat required for the scrub jay greatly restricts the bird's distribution. Active management either through burning or mechanical clearing is necessary to maintain optimum conditions. In general, scrub-jay habitat consists of dense thickets of scrub oaks less than nine feet tall, interspersed with bare sand used for foraging and storing of acorns (U.S. Fish and Wildlife Service 1990).

The Cape has been divided into 132 land management units to enable the environmental staff to better manage the land. The proposed site is located in unit 126, which has not had any scrub management completed to date and none proposed in the near future. The alternative site is located in unit 128, which has not had any scrub management completed to date and none proposed in the near future. The proposed site consists of overgrown oak scrub with no Florida scrub jays currently residing on it. The secondary alternative site would require no clearing since the facility would be constructed on existing improved ground. If a minimal amount of clearing was required at the alternative site, the area to the south consists of overgrown oak scrub (A. Chambers, personal communication, Feb 2006). However, the U.S. Fish and Wildlife Service considers CCAFS a very important scrub jay area and immensely important to the recovery of the species, regardless of the scrub condition. Periodic controlled burning of Florida scrub jay habitat is conducted to mimic the natural ecological cycle that includes seasonal brush fires to limit tree height and help maintain habitat make-up. Figure 3.1, a map showing scrub jay habitat in dark green, indicates that scrub jay compensation may be necessary for virtually all proposed construction on CCAFS.

Compensation for scrub jay loss is typically based on ratio of 4:1 (every acre lost requires compensation in the amount of four acres) in accordance with the CCAFS Scrub Compensation Plan contained in Appendix 7 of the Integrated Natural Resources Management Plan. Informal Section 7 Consultation under the Endangered Species Act with the U.S. Fish and Wildlife Service (USFWS) was completed on November 3, 2005 (see Appendix E), to address the potential adverse effects of the proposed administrative campus on the Florida scrub-jay and two other federally threatened species, the Eastern indigo snake and the Southeastern beach mouse. The entire campus will result in the loss of approximately 50 acres of overgrown oak scrub located in Compartments 124 and 126. The proposed action site at Pier Road is located in Compartment 126. As compensation for loss of this habitat, which includes the NOTU building, 34 acres of scrub habitat in Compartment 12 and 134 acres of scrub in Compartment 14 will be restored. In addition, a study to identify scrub jay predators and determine what ecological factors affecting their abundance and distribution will be funded. Since the NOTU facility will occupy approximately 8.5 acres of the campus site, they will be responsible for compensating for their portion of habitat destroyed. NOTU will be required to compensate at the 4:1 ratio; therefore, will provide funding for restoration of 34 acres. This money will be deposited directly into the National Fish and Wildlife Foundation fund for the 45th Space Wing, which will then be used to fund restoration activities on CCAFS.



**Figure 3-1 Scrub jay habitat at CCAFS**

During the 2005 census, the nearest group of Florida scrub jays was observed approximately 500 feet away, in the southeast corner of Compartment 126. Currently, there are no Florida scrub jays residing or utilizing the proposed project area (45SW 2005). The nearest group of Florida scrub jays were located approximately 500 feet away at the secondary alternative site, as well (A. Chambers, personal communication, Jan 2006).

### 3.2.3 Gopher Tortoise

The gopher tortoise is a relatively large (carapace length up to 1.2 feet) terrestrial turtle that is active year round but spends a limited amount of time above ground. Gopher tortoises occur in habitats with a well-drained sandy substrate, ample herbaceous vegetation for food, and sunlit areas for nesting. These habitat types include sandhill, sand pine scrub, xeric hammock, pine flatwoods, dry prairie, coastal grasslands, and dunes, and mixed hardwood-pine communities. Gopher tortoises are highly fossorial and construct extensive burrow systems (approximately 15 feet long and 6.5 feet deep [Diemer 1989]), where they spend much of the time. Nesting occurs from late April to mid-July. Clutches averaging 5 to 6 eggs, hatch from August through September. Nests may be located in any open sunny area near the burrow of the female, but most often, nests are placed in the spoil mound immediately outside the female's burrow.

Adult females produce one clutch per year, with some adults not nesting every year.

The primary reason for the decline of this species throughout the southeast is habitat loss. The gopher tortoise is afforded protection by the Air Force due to its state ranking and the commensal use of its burrow by other federally protected species (the Eastern indigo snake). A complete survey has not been completed by the CEV office for either the proposed action or secondary alternative site; however, gopher tortoises are likely to occur within the proposed project area at either site (A. Chambers, personal communication, Feb 2006).

### 3.2.4 Southeastern Beach Mouse

The Southeastern beach mouse is a subspecies of the widely distributed beach mouse (*Peromyscus polionotus*). Originally occurring on coastal dunes and coastal strand communities along the Atlantic coast of Florida, the Southeastern beach mouse is presently known to occur in six sites in Brevard, Indian River, and St. Lucie Counties. Most breeding activity occurs November through January, and females can produce two or more litters per year, with litters averaging 3 to 4 young (United States Fish and Wildlife Service, 1988). The extirpation of the Southeastern beach mouse from most of its historical range is a result of human development of the coastal barrier islands.

The most viable populations of this species of mouse are now present only at Canaveral National Seashore, Kennedy Space Center (KSC), and CCAFS. CCAFS is the only remaining unfragmented section of coastal dune and strand that still supports large numbers of the Southeastern beach mouse. The Southeastern beach mouse has been observed in coastal scrub on CCAFS (Oddy et. al., 1999). The Southeastern beach mouse was not observed at the proposed action site during recent site visits (45SW 2005). Beach mouse burrows have not been observed at the secondary alternative site, as well.

### 3.2.5 Sea Turtles

Three species of special status sea turtles have been documented as nesting on CCAFS: the federal and Florida state threatened loggerhead sea turtle (*Caretta caretta*), the federal and Florida state endangered green sea turtle (*Chelonia mydas*) and leatherback sea turtle (*Dermochelys coriacea*). While sea turtles spend much of their lives roaming ocean waters, females come ashore each year to nest. Research has demonstrated that females will avoid highly illuminated beaches and postpone nesting (Witherington 1992). Artificial lights have also resulted in hatchling mortality as disoriented hatchlings move towards these light sources and dunes rather than ocean waters.

In 1988, in compliance with Section 7 of the Endangered Species Act (ESA), the U.S. Air Force and the USFWS developed Light Management Plans (LMP) for various areas and facilities on CCAFS to protect nesting sea turtles. A Biological Opinion issued by the USFWS on 9 April 1999, updated on 2 May 2000, requires that all new facilities develop a Light Management Plan. The 45th Space Wing Instruction (45 SWI) 32-7001, *Exterior Lighting Management*, 1 April 2003, implements the Biological Opinion and explains management responsibilities, exterior lighting restrictions and reporting requirements necessary for the 45 SW to remain in compliance with Federal, State, and local standards. This 45 SWI requires that an area LMP be developed for

new, large construction projects within 45 SW jurisdiction to ensure that lighting issues for that particular site are addressed from design through post-construction. Specifically, 45 SWI 32-7001 mandates that exterior lighting that is not mission-, safety-, or security-essential, be extinguished during the sea turtle nesting season, 1 April through 31 October, between the hours of 2100 and 0600. It further mandates that mission-essential operations that require artificial lighting will be accomplished using LPS light fixtures, and allows for the use of well-shielded, high-pressure sodium (HPS) lights only where color rendition or explosion-proof fixtures are required, and only with prior approval from the 45th Environmental Flight (45 CES/CEV).

### 3.3 Earth Resources

The earth resources examined include topography, soils, and geography.

#### 3.3.1 Topography

The topography of CCAFS ranges from sea level to gently sloping elevations that range from 0 feet to 20 feet above mean sea level. CCAFS is a barrier island consisting of a series of relic dune ridges. The eastward progressing ridges were laid down as sea levels gradually decreased from the Ice Age over the last 7,000 years (2002 General Plan).

Topographic units occurring within CCAFS are as follows:

- Dune and Swale Area – between the Banana River Lagoon and the Atlantic Ocean
- Marshland Areas – adjacent to the Banana River and impounded areas
- Open Water Areas – lagoons, estuaries, lakes, natural and man-made ponds, borrow pits and drainage canals. Within this unit are brackish water impoundments. Open water areas also include portions of the Banana River between the mainland and the Integration, Transfer, and Launch area (2002 General Plan).

#### 3.3.2 Soils and Geography

Located within the coastal lowlands, CCAFS is composed of Canaveral-Palm Beach-Welaka soils that are categorized at nearly level to gently sloping and moderately to excessively well-drained sand ridges interspersed with narrow wet slough that generally parallel the ridges. These soils are exceptionally dry even though the water table is often near the surface during rainy periods. As a result, these soils are unsuited to farming, but good for drainage.

Structurally, the soils have a bearing capacity between 2,000 and 2,500 pounds per square foot, which is the pressure that a shallow foundation unit can impose onto the supporting earth mass without causing over-stressing. Also, CCAFS sandy surface soils occasionally have difficulty reaching the structural engineer's required compaction, which is crucial in preventing future facility settlement. In these cases, the existing soil is removed and replaced with suitably compacted earth fill (Schilling, 2001).

A layer of sandy limestone, calcareous clay with fragments of shells, coquina, old

limestone, and unconsolidated and well-graded quartz sand lie directly below the surface soils. There are no rock crops on the installation. The bedrock at CCAFS ranges from hard to dense limestone that is a principal part of a major Florida Artesian Aquifer located 75 to 300 feet below the surface (Integrated Natural Resources Management Plan, 2002). Deep foundation systems are required to support the more massive structures due to the depth at which dense bedrock resides. Geotechnical investigations are performed to identify geotechnical constraints and the foundation design. Also, various other structures such as towers may require special foundation designs and geotechnical evaluation (Schilling, 2001).

The principal geologic hazard in central Florida is sinkholes that develop when overlying soils collapse into existing cavities. CCAFS is not located in an active sinkhole area. An in-depth review completed in 1998 did not reveal the presence of any sinkholes (U.S. Air Force, 1998). The Canaveral Peninsula is not prone to sinkholes, since the limestone formations are over 100 feet below the ground surface, and confining units minimize recharge to the limestone (45th Space Wing, 1996a).

### 3.4 Invasive Plant Species

Invasive species that colonize an area may gain an ecological edge over indigenous species since the insects, diseases, and foraging animals that naturally keep its growth in check in its native range are generally not present in its new habitat. Once established, these plant species easily out-compete and displace native plant species, disrupt ecological processes, and significantly degrade entire plant communities. Native plants can be threatened by hybridization with invasives. Endangered species may be extirpated from their habitats by invasive plant species.

Consequently, specific management of invasive species is required to preserve the natural state of the environment for flora and fauna of an area. Executive Order 13112, *Invasive Species*, the Sikes Act, as amended (16 USC 670, February 3, 1999), and other Federal and State regulations and policies require control of invasive species to reduce their ecological impact.

The proposed action site would require at least two acres of land to be cleared. Therefore, the vegetation removal and clearing of land would fall under the mandates of Executive Order 13112. Exotic Species Management is explained further in Chapter 4.

### 3.5 Land Use

Land use is concerned with the various land use categories. CCAFS encompasses approximately 15,804 acres, representing approximately two percent of the total land area of Brevard County. Land use categories give a description of the existing or planned general use of the land on the installation. As you can see in Figure 3.3, land uses at CCAFS include the following:

- Launch Operations
- Launch and Range Support
- Airfield
- Port Operations
- Station Support Area

- Open Space
- Public Outreach

Launch operations, launch and range support, and port operations land use categories are not used on a typical Air Force installation due to the unique aspects of these categories.

The launch operations land use category is present along the Atlantic Ocean shoreline and includes the active and inactive launch sites and support facilities. The launch and range support area is west of the launch operations land use area and is divided into two sections by the airfield. The airfield includes a single runway, taxiways, and apron, and is in the central part of the installation.

The port operations area is in the southern part of the installation and includes facilities for commercial and industrial activities. The major industrial area is located in the center of the western portion of the installation, near the Banana River. Although many of the activities are industrial, this land use area includes administrative, recreational, and range support functions. Open space is dispersed throughout CCAFS.

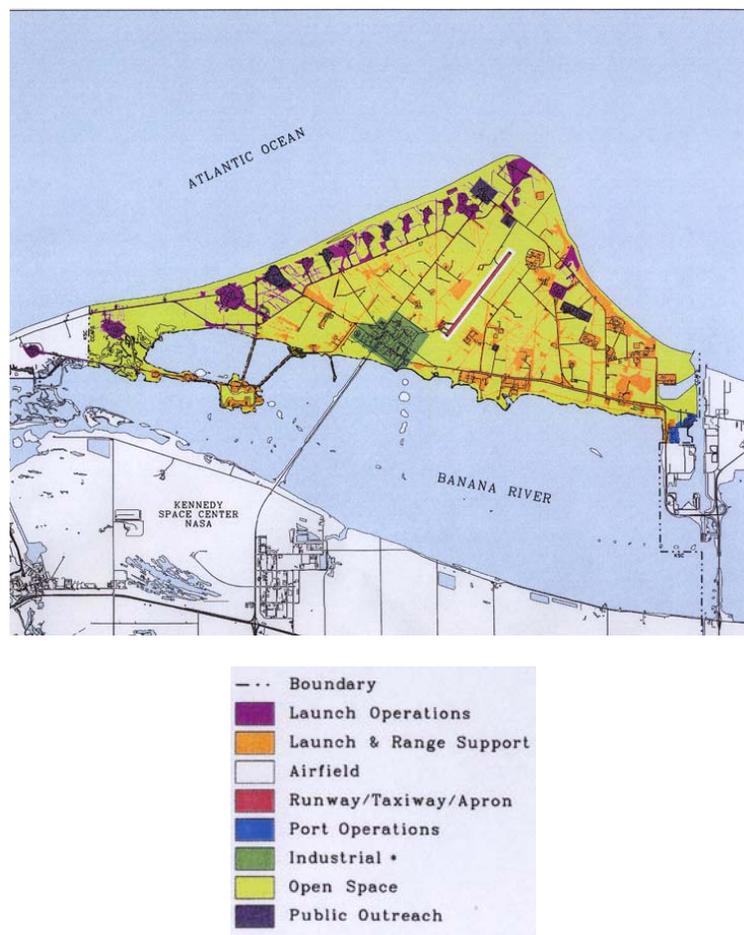


Figure 3-2 Existing Land Use Map

Because of its technical characteristics, CCAFS lacks the commerce, community, housing, and recreational amenities that are found on most U.S. Air Force installations. There are no public beaches located on CCAFS.

Approximately 65.2 percent of CCAFS land is categorized as “Open Space” or water. The percentage would not be nearly as high if all land that provides setbacks or security and safety buffers were identified as having the same land use category as the facilities the land supports. Actual land available for development is much less than the 9,988 acres listed as “Open Space.”

### 3.6 Noise

Noise is usually defined as unwanted sound. The characteristics of sound include parameters such as amplitude, frequency, and duration. Sound can vary over an extremely large range of amplitudes. The decibel, a logarithmic unit that accounts for the large variations in amplitude, is the accepted standard unit for the measurement of sound.

Different sounds may have different frequency content. When measuring sound to determine its effects on a human population, it is common to adjust the frequency content to correspond to the frequency sensitivity of the human ear. This adjustment is called A-weighting (American National Standards Institute, 1988). Sound levels that have been so adjusted are referred to as A-weighted sound pressure level. The unit is still decibel (dB), but the unit is sometimes written dBA for emphasis. Figure 3.4 shows typical A-weighted sound levels.

The relative isolation of CCAFS reduces the potential for noise to affect adjacent communities. The closest residential areas to CCAFS are to the south, in the cities of Cape Canaveral and Cocoa Beach. Expected sound levels in these areas are normally low, with higher levels occurring in industrial areas (Port Canaveral) and along transportation corridors. Residential areas and resorts along the beach would be expected to have low overall noise levels, normally about 45 to 55 dBA. Infrequent aircraft flyovers from Patrick Air Force Base and rocket launches from CCAFS would be expected to increase noise levels for short periods of time.

Noise levels at KSC probably approximate those of any urban industrial area, reaching levels of 60 to 80 dBA. The launch of space vehicles from KSC does generate intense, but relatively short-duration, noise levels of low frequencies. The highest recorded levels are those associated with the space shuttle, which in the launch vicinity (on the pad and its supporting facilities) can exceed 160 dBA. Noise levels at Port Canaveral would be expected to be typical of those at an industrial facility, reaching levels of 60 to 80 dBA.

An additional source of noise in the area is the CCAFS Skid Strip. Because of the infrequent use of the Skid Strip, noise generally does not affect public areas. Other less frequent but more intense sources of noise in the region are space launches from CCAFS and explosive ordnance detonations conducted by the Army and Air Force on CCAFS.

### 3.7 Water Resources

Water resources include groundwater and surface water and their physical, chemical, and biological characteristics; however, since there are no adverse impacts associated with groundwater and surface water, this section only addresses stormwater.

The St. John's River Water Management District (SJRWMD) issues the Environmental Resource Permit, which includes storm water and wetlands management, in coordination with the Florida Department of Environmental Protection (FDEP) and the U.S. Army Corps of Engineers. There are no wetlands located within the proposed action and secondary alternative sites (A. Chambers, personal communication, Jan. 2006). FDEP is responsible for management of the National Pollution Discharge Elimination System (NPDES) permit process and wastewater discharges. The operator of a regulated construction site must obtain an NPDES stormwater permit and implement appropriate pollution prevention techniques to minimize erosion and sedimentation and properly manage stormwater. The permit required under FDEP's NPDES stormwater program is separate from the Environmental Resource Permit. The NPDES stormwater program for construction activity regulates "large" and "small" construction activity. The program regulates stormwater discharges that are associated with construction activities and that discharge to surface waters of the State or into municipal separate storm sewer systems.

#### 3.7.1 Storm Water Management

The CCAFS watershed consists primarily of undeveloped scrub and forest vegetation with a flat topography. The installation also includes cleared grounds of turf grasses and herbaceous weeds, storage yards, a landfill, a skid strip, roadways and parking, and numerous administrative processing and launch facilities. These latter areas produce the vast majority of storm water runoff and have the potential to contribute significantly to non-point pollution in surrounding surface waters. The potential for storm water non-point source pollution at CCAFS is minimized by storage of runoff in retention ponds and swales, and best management practices to reduce exposure of potential contaminants to storm water.

Construction of new facilities and impervious surfaces include surface water management systems that collect runoff into a system of swales or retention basins. These storm water facilities filter out and break down contaminants from water passing through vegetation and soils and percolate runoff into the surficial aquifer. Most facilities and pavements constructed at CCAFS since 1985 include a storm water collection system. Older facilities and impervious areas on the installation generally have storm water drainage facilities that are designed more for conveyance and off-site discharge of storm water, as opposed to on-site collection/disposal.

For both the proposed action and the secondary alternative sites, certain regulatory requirements are necessary with regard to stormwater. An Environmental Resources Permit through the St. Johns River Water Management District and a National Pollutant Discharge Elimination System permit through the Florida Department of Environmental Protection are required. Under the no-action alternative, the proposed facility would not be constructed. Thus, no regulatory stormwater requirements would be necessary.

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## **4.0 Environmental Consequences Associated with the Proposed Activities**

This chapter presents the results of the analysis of potential environmental consequences associated with the proposed project activities. Each section within this chapter discusses a separate resource area and describes the potential impacts resulting from implementation of the proposed action (the construction of an administrative facility off of Pier Road), a reasonable alternative (the construction of an administrative facility at Samuel C. Philips Parkway), and no-action alternative (no construction of an administrative facility).

### **4.1 Biological Resources**

Federal agencies are required by Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.), to assess the effect of any project on federally listed threatened or endangered species. Under Section 7, consultation with the FWS and the National Oceanographic and Atmospheric Agency Fisheries Service is required for federal projects if such actions could directly or indirectly affect listed species or destroy or adversely modify critical habitat. It is also Air Force policy to consider listed and special status species recognized by state agencies when evaluating impacts of a project. Impacts to biological resources are expected to be insignificant.

#### **4.1.1 Vegetation**

Construction activities at the proposed action site will necessitate the clearing of approximately fifty (50) acres of vegetation, primarily overgrown oak scrub, to accommodate construction of this facility and the proposed administrative campus area, which will consist of four administrative buildings with associated parking lots, a pavilion and retention areas. All vegetation within this area would be permanently removed, with no opportunity for restoration.

Construction activities at the secondary alternative site should not necessitate the clearing of vegetation to accommodate construction of facilities, roadways, parking areas, and fences. The amount of space needed for the secondary alternative is around 3.5 acres. The Navy would use land that is already cleared for this project, which is approximately 4 acres.

Under the no-action alternative, construction activities associated with the proposed action would not occur. Thus, no impacts to vegetation would occur.

All activities associated with this facility would occur within the building and would not result in any adverse effects in native plant communities or plant species. Impacts to vegetation is expected to be insignificant.

#### **4.1.2 Wildlife**

Construction activities associated with the proposed action and secondary alternative would occur over several months and would include the breeding season for many wildlife species, including birds. If the construction occurs during the breeding season for avian species, it has the potential to disrupt breeding activities including courtship, incubation and brooding. These impacts would be considered short-term and would

not be considered of a magnitude to result in adverse impacts to populations within the vicinity of the project area. Avian surveys immediately preceding the initiation of construction activities would identify the presence of any nests. Monitoring during construction would identify any potential disturbance so measures could be implemented to avoid adverse effects. Impacts to wildlife are expected to be insignificant.

#### 4.2 Threatened and Endangered Species and Species of Special Concern

Three federally listed, the Eastern indigo snake, Florida scrub jay and Southeastern beach mouse, and one state listed species, the gopher tortoise, have the potential to occur within the proposed action and the secondary alternative site. Project related impacts to these species are listed in Table 4-1. Construction activities have the potential to result in the take of some special status wildlife species from activities such as disturbance, excavation, crushing, or burial.

**Table 4-1 Potential impacts to federal special status wildlife species that occur or with potential to occur within the proposed action and secondary alternative site**

Common Name <i>Scientific Name</i>	Status <sup>1</sup>		Potential Impacts
	FWC	USFWS	
Eastern indigo snake <i>Drymarchon corais couperi</i>	T	T	Crushing by equipment. Loss of habitat. Disruption due to noise.
Florida scrub-jay <i>Aphelocoma coerulescens</i>	T	T	Loss of breeding habitat. Disruption due to noise.
Southeastern beach mouse <i>Peromyscus polionotus niveiventris</i>	T	T	Crushing by equipment. Disruption due to noise
Gopher tortoise <i>Gopherus polyphemus</i>	SSC		Crushing by equipment. Disruption due to noise

<sup>1</sup> FWC – Florida Fish and Wildlife Conservation Commission USFWS – U.S. Fish and Wildlife Service  
T – Threatened SSC –Species of Special Concern

Project specific measures to reduce adverse impacts to special status wildlife species and compensate for habitat losses are presented below. An Informal Section 7 Consultation for Construction and Operations of an Administrative Campus Area, which includes the NOTU Engineering Services Facility, has been completed with FWS for construction of the facility at the proposed action site. Potential adverse impacts to biological resources would be avoided or minimized during construction activities associated with the proposed action and the secondary alternative site through implementation of the project constraints and monitoring measures.

A qualified biologist would conduct pre-construction surveys up to two weeks before the start of any construction to determine if nesting native birds are present. If active native bird nests are found within the project area, construction activities would not begin until after the young have fledged to prevent abandonment. If territorial or nesting native birds are found within 50 feet of the construction area, disturbance would be minimized and they would be monitored to determine construction related impacts. If nesting or native birds are found with eggs or unfledged chicks within 50 feet of the construction area, they would be monitored and disturbance would be minimized until after the young have fledged to prevent abandonment. Depending on the nest location, this may necessitate delaying working at the site.

Throughout the length of vegetation clearing and grading activities, a qualified biologist or an individual identified by the 45 CES/CEVP office would conduct daily pre-construction surveys immediately before beginning construction activities to identify wildlife species within the work site and relocate them as necessary. Equipment left at the site overnight would be inspected before the start of activities each morning to ensure no wildlife species are trapped underneath. Any species found underneath the equipment would be moved to suitable habitat outside the construction area. Individuals found during these surveys would be moved to suitable habitat outside the construction site.

Clearing would not be required at the secondary alternative site. If the alternative site was chosen and clearing became necessary, consultation with FWS would be required.

Under the no-action alternative, construction activities associated with the proposed action would not occur. Thus, no impacts to biological resources would result. Additionally, under the no-action alternative, no mitigation measures are required for special status wildlife species since the administrative facility would not be built.

#### **4.2.1 Eastern Indigo Snake**

Eastern indigo snakes would be vulnerable to mortality as a result of injuries sustained during activities such as vegetation clearing and grading. Individuals also have the potential to be crushed by vehicles. Incidental take in the form of mortality to Eastern indigo snakes would be avoided through preconstruction surveys and relocation of any individuals present within the boundaries of the work area. Monitoring during vegetation clearing and grading activities would provide the opportunity to relocate individuals found within the construction site to adjacent suitable habitat.

CCAFS has authorization from the Florida Fish and Wildlife Conservation Commission (FWCC) for the relocation of one Eastern indigo snake from within a specific project site only if one is found while relocating gopher tortoises. Compliance with the recommended project constraints and monitoring measures would minimize adverse effects to these species by decreasing the chance for injury and mortality, and reduce potential adverse impacts to a less than significant level. The 45 SW Indigo Snake Protection/Education Plan would be provided to the project manager and construction personnel for review. Additionally, educational signs would be displayed at the site to inform personnel of the snake's appearance, protected status and who to contact if any are spotted in the area. If an Eastern indigo snake is encountered during gopher tortoise burrow evacuation, the snake will be safely moved out of the project area.

Other than the loss of 50 acres of habitat, no other adverse impacts to indigo snakes are expected to occur at the proposed action site (45SW, 2005); therefore, impacts are expected to be insignificant.

No clearing is proposed at the secondary alternative site. If the alternative site was chosen and clearing became necessary, consultation with FWS would be required.

Under the no-action alternative, construction activities associated with the proposed action would not occur. Thus, no impacts to the Eastern indigo snake would result.

### 4.2.2 Florida Scrub Jay

Florida scrub jay, while not present within the proposed action and the secondary alternative site, nesting does occur nearby, and the species may actually utilize the edges of habitats in close proximity. The CCAFS Florida scrub-jay population is part of a larger metapopulation that includes birds on KSC and Canaveral National Seashore (CNS). Scrub-jay numbers on CCAFS are on the decline as a result of habitat loss (U.S. Air Force 2002). The U.S. Fish and Wildlife Service (USFWS) has designated CCAFS as part of a core scrub-jay area, indicating that all scrub habitat on CCAFS is highly valuable to the recovery of the species. The proposed action and secondary alternative sites are located in areas that are not proposed to be restored for scrub jays in the near future. (A. Chambers, personal communication, Jan. 2006).

At the proposed action site at Pier Road, construction activities will necessitate the clearing of vegetation to accommodate construction of facilities, roadways, parking areas and fences. Sensitive or special status species could occur on the periphery of this site. The FWS considers CCAFS a primary scrub-jay area and extremely valuable to the species. All vegetation within this area would be permanently removed, with no opportunity for restoration.

Clearing would be restricted to outside the scrub jay nesting season, which runs from March 1 – June 30, in those areas where scrub jays are known to be nesting. As compensation for loss of this habitat, which includes the NOTU building, 34 acres of scrub habitat in Compartment 12 and 134 acres of scrub in Compartment 14 will be restored. In addition, a study to identify scrub jay predators and determine what ecological factors affecting their abundance and distribution will be funded. Since the NOTU facility will occupy approximately 8.5 acres of the campus site, they will be responsible for compensating for their portion of habitat destroyed. NOTU will be required to compensate at the 4:1 ratio; therefore, will provide funding for restoration of 34 acres. This money will be deposited directly into the National Fish and Wildlife Foundation fund for the 45th Space Wing, which will then be used to fund restoration activities on CCAFS.

There would be no scrub jay compensation required for the alternative site since no clearing is proposed. Impacts to the Florida scrub jay are expected to be insignificant. If the alternative site was chosen and clearing became necessary, consultation with FWS would be required.

Under the no-action alternative, construction activities associated with the proposed action would not occur. Thus, no impacts to the Florida scrub jay would result.

Since the facility's purpose is for administrative use only, the presence of the new facility will not impose stricter burn restrictions.

### 4.2.3 Gopher Tortoise

The potential for gopher tortoises to be located at the proposed action and secondary alternative sites is high (A. Chambers, personal communication, Feb 2006). Gopher tortoises would be vulnerable to mortality as a result of injuries sustained during activities such as vegetation clearing and grading. Individuals also have the potential to be crushed by vehicles. Incidental take in the form of mortality to gopher tortoises

would be avoided through preconstruction surveys and relocation of any individuals present within the boundaries of the work area. Monitoring during vegetation clearing and grading activities would provide the opportunity to relocate individuals found within the construction site to adjacent suitable habitat. Impacts to the gopher tortoise are expected to be insignificant.

Under the no-action alternative, construction activities associated with the proposed action would not occur; therefore, no impacts to the gopher tortoise would result.

#### 4.2.4 Southeastern Beach Mouse

Southeastern beach mice have not been observed within the proposed action or the secondary alternative site; therefore, impacts are expected to be insignificant.

Under the no-action alternative, construction activities associated with the proposed action would not occur. Thus, no impacts to the Southeastern beach mouse would result.

#### 4.2.5 Sea Turtle

The attributes that can make a light source harmful to sea turtles are complex. However, Witherington and Martin (1996) summarized it best by stating that “...an artificial light source is likely to cause problems to sea turtles if light from the source can be seen by an observer standing anywhere on the beach.” Any glowing portion of a lamp, globe or reflector that is directly visible on the beach can be construed as a source of light likely to be a problem for sea turtles. In addition, light that reaches the beach indirectly by reflecting off buildings or trees that are visible from the beach can also be considered a source of light likely to pose a problem.

Per 45 SWI 32-7001 of 1 April 2003, *Exterior Lighting Management*, the proponent for the proposed NOTU Engineering Services Facility would incorporate a Light Management Plan for construction activities and operation of the new facility, specific to the site, which will include the following components:

- Exterior lighting that is not mission, safety, or security essential, will be extinguished from April 1 through October 31, between the hours of 2100 and 0600.
- All exterior lights will be controlled by either individual or cluster light-specific switches, or an Energy Management Control System (EMCS).
- Mission essential operations that require artificial lighting will be accomplished using LPS light fixtures. Where color rendition or explosion-proof fixtures are required, wellshielded, HPS lights may be used; however, a letter of justification must be submitted to the 45 CES/CEV.
- Interior lighting that creates an incidental glow visible outside the facility must be extinguished or shielded to prevent the light from being visible external to the facility. If interior lighting is required for safety or security reasons and is visible outside the facility, the facility manager must work with the 45 CES/CEV office to identify alternative light types.
- Use of photocells is not permitted unless lighting is a security requirement. Programmable timers may be used for area lighting, if essential for personnel safety. Requests to 45 CES/CEV for the installation of photocells must be accompanied by written justification.

The 45 CES/CEVP Office would coordinate FWS approval of the Light Management Plan. With the implementation of the above measures, impacts to the sea turtle are expected to be insignificant.

### 4.3 Earth Resources

The activities associated with the proposed action at Pier Road would require construction at a site that has not been disturbed in the past. Construction of the administrative facility at Pier Road would require some removal and clearing of vegetation. Activities associated with the secondary alternative at Philips Parkway would require construction of new facilities at a site that has been disturbed in the past. For both the proposed and the secondary alternative, construction would include changing the existing site topography through excavation and grading, as required, for new construction.

This type of construction would alter the topography of the site beyond changes that result from natural erosion or deposition. Appropriate measures to reduce wind and water erosion would be implemented. Grading and construction procedures would be designed to minimize topographic changes. The design would include balancing the amount of cut and fill to maximize the use of local material, where possible. Additional measures for erosion control may include permanent seeding, mulching, sod stabilization, and vegetative buffer strips. Sediment and erosion controls can also include engineered structures to divert or store flow, or limit runoff.

The Environmental Resources Permit, NPDES Permit and the associated Storm Water Pollution Prevention Plan (SWPPP) would include specific measures that would be implemented to control both wind and water erosion of soils before and during construction activities. Sediment and erosion controls generally address pollutants in storm water generated from the site during construction. Storm water management measures are generally implemented before and during construction and primarily result in reductions of pollutants in storm water. Additional measures include best management practices.

Short-term adverse impacts to soils may result, but long-term impacts would not be significant. Standard construction practices and adherence to permit requirements would minimize adverse impacts to geology and soils. Impacts to earth resources are expected to be insignificant.

Under the no-action alternative, the proposed administrative facility would not be constructed. Thus, no impacts to earth resources would result from construction activities.

### 4.4 Invasive Species Management

Land clearing on CCAFS requires the removal of exotic plant species. Invasive species management is mandated also. Federal, State, and the 45 CES/CEV policies require that all invasive species be treated to prevent regrowth. Species that are of immediate concern at the Cape include, but not exclusive are the, Brazilian pepper (*Schinus terebinthifolius* Raddi), Cogon grass (*Imperata cylindrical*), and Australian

pine (*Casuarina equisetifolia*). The management of invasive plant species may be controlled by mechanical or chemical means or both.

Heavy equipment such as bulldozers front-end loaders, root rakes, and other specialized equipment may be used for the mechanical control of invasive plant species such as the Brazilian pepper for example. Herbicide application would be used to prevent regrowth from stumps. A saw would be used to cut the trunk as close as possible to the ground. Within 5 minutes, herbicide would be applied as carefully as possible to the cambium, which is just inside the bark of the stump. Trees would generally be cut when they are not fruiting. Fruiting trees would be controlled using a basal bark herbicide application. Basal bark treatments are most effective when performed in the fall when the Brazilian pepper flowers. Any Brazilian pepper that is seeding must be herbicided and given ample time to die before the removal of the plant can take place.

Foliar herbicide application would be used on Brazilian pepper seedlings. A herbicide containing triclopyr or glyphosate would be applied directly to the tree's foliage. The leaves will wilt and the herbicide will be translocated to other parts of the tree. Foliar applications require considerably more herbicide.

To effectively manage Cogon grass, a combined mechanical-chemical protocol is required also. First, the infested area would be mowed or burned in late spring/early summer to remove last year's growth and accumulated thatch layer. About six to eight weeks later, when about eighty percent of the Cogon grass has re-sprouted to a height of 6-12 inches, the site would be disked as deeply as possible. Disking may be possible in all areas, due to the sensitive nature of some ecosystems. When adequate regrowth of the Cogon grass has occurred, systemic herbicides are applied. Implementation of these measures would reduce potential adverse impacts to a less than significant level.

#### **4.5 Land Use**

The proposed action would occur within the boundary of CCAFS. The proposed action would not result in a conversion of prime agricultural land; however, the proposed action would cause a change in land use since the site would be permanently occupied by the administrative facility and vegetation would have to be cleared.

The secondary alternative site would use land that is already cleared and paved. The Navy proposes to use the existing pavement and concrete foundations for all of the parking requirements for the Navy and also a proposed Air Force facility adjacent to the Navy's proposed site. No or minimal vegetation would have to be cleared. Impacts to land use are expected to be insignificant.

Under the no-action alternative, the administrative facility would not be constructed. Thus, no impacts would occur to land use.

#### **4.6 Noise**

The construction associated with the proposed action would temporarily increase the ambient noise levels in the project areas. All areas affected are along roadways, and there would likely be sensitive receptors in the vicinity of the construction. Because

construction at the proposed action site would include the clearing of undisturbed land, hauling in fill dirt, and paving, the level of noise would increase and could result in short-term adverse impacts. However, based on the magnitude of the construction activities and estimated noise levels that would be generated (Table 4-2), the maximum noise level exposures established by the Occupational Safety and Health Administration, and the anticipated exposure time to the construction noise, it is anticipated that no long term adverse impacts would result.

**Table 4-2  $L_{eq1h}$  noise levels as a result of construction activities**

Distance from Construction area (feet)	Structural Work (dB)	Concrete Work (dB)	Road Construction (dB)
50	89.1	89.6	80.6
100	84.6	85.1	76.1
300	77.4	77.9	69.0
500	74.1	74.6	65.6

$L_{eq1h}$  – the one-hour average sound level

Wildlife, including mammals, amphibians, reptiles, and birds, present in the area could be affected by construction noise. Wildlife response to noise can be physiological or behavioral. Physiological responses can range from mild, such as an increase in heart rate, to more damaging effects on metabolism and hormone balance. Behavioral responses to man-made noise include attraction, tolerance, and aversion. Each has the potential for negative and positive effects, which vary among species and among individuals of particular species due to temperament, sex, age, and prior experience with noise. Responses to noise are species-specific; therefore, it is not possible to make exact predictions about hearing thresholds of a particular species based on data from another species, even those with similar hearing patterns.

Reptile hearing is poorly studied. However, reptiles are sensitive to vibrations, which provide information about approaching predators and prey. Vibration and noise associated with construction activities would potentially cause short-term disturbance to Eastern indigo snakes. These impacts would be considered short-term and would not be considered of a magnitude to result in adverse impacts to populations within the vicinity of the project area.

Potential adverse impacts to the Florida scrub jay resulting from construction and human generated noise include disruption in foraging, roosting, and courtship activities. These impacts would be considered short-term and would not be considered of a magnitude to result in adverse impacts to populations within the vicinity of the project area.

Potential noise related impacts to the Southeastern beach mouse and gopher tortoises during construction activities would include disruption of normal activities due to noise and ground disturbances. These impacts would be considered short-term and would not be considered of a magnitude to result in adverse impacts to populations within the vicinity of the proposed and secondary alternative project areas.

Impacts to wildlife as a result of noise are expected to be short-term and insignificant.

Under the no-action alternative, the administrative facility would not be constructed; therefore, no noise related impacts would occur.

#### 4.7 Water Resources

For both the proposed action at Pier Road and the secondary alternative at Philips Parkway certain regulatory requirements are necessary with regard to stormwater. An Environmental Resource Permit (ERP) through the St. Johns River Water Management District (SJRWMD) and a Construction NPDES Permit through the Florida Department of Environmental Protection (FDEP) are required. The ERP and SWPPP would include specific measures that would be implemented to control both wind and water erosion of soils before and during construction activities. Sediment and erosion controls generally address pollutants in stormwater generated from the site during construction. Stormwater management measures are implemented before and during construction and primarily result in reductions of pollutants in storm water. Additional measures include best management practices. Implementation of these measures would reduce potential adverse impacts to a less than significant level.

Under the no-action alternative, the proposed administrative facility would not be constructed. Thus, no stormwater permitting requirements would be necessary.

#### 4.8 Cumulative Impacts

Cumulative effects result from the incremental effect of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The following proposed projects identified by SGS Master Planning were considered in the cumulative impacts analysis:

**Project 1** – Construction of a new Administrative Campus Area to consolidate Navy and Air Force personnel into a central location. Construction is planned for the year 2006. The project consists of four administrative buildings with associated parking lots, a pavilion and retention areas. The campus will be built in phases, with the first phase consisting of the NOTU Engineering Services Facility. The facility is proposed 100 feet south of Pier Road at Facility 74100 and northwest of Facility 1125. Facility 74100 would have to be demolished. The entire campus will result in the loss of approximately 50 acres of overgrown scrub. See Appendix G, Figures G-1 and G-2.

**Project 2** – Construction of a new Eastern Processing Facility (EPF) to support processing of National Reconnaissance Office (NRO) payloads. Construction is planned for the year 2006. This facility is proposed on the corner of Samuel C. Phillips Parkway and Lighthouse Road. Construction of the proposed EPF would necessitate the permanent removal of approximately 45 acres of oak scrub vegetation with no opportunity for restoration. See Appendix G, Figures G-3 and G-4.

**Project 3** – Construction of a new substation to provide an adequate and reliable supply of electricity for the Eastern Processing Facility (EPF). Construction is planned for the year 2007. This facility is proposed on the west side of Samuel C. Phillips Parkway within the vicinity of the EPF. See Appendix G, Figures G-5 and G-6.

**Project 4** – Construction of a new Satellite Operations Support Facility to support technical operations. Construction is planned for the year 2006. The project consists of constructing a new two story 25,500 ft<sup>2</sup> building to house approximately 180 Air Force and DoD contractor personnel who will perform time critical data collection/reduction, anomaly resolution, computer simulation, technical data processing, quality control functions, logistic accounting, aerospace engineering, safety engineering and security management of these multiple programs. The facility is proposed just southwest of Facility 55893 at Area 59 within the close proximity of the Satellite Processing Area on CCAFS. The proposed action also includes dismantling and removal of one modular building located southeast of the proposed action area. The proposed location would occupy the northwest corner of an existing parking lot and would require the removal of approximately 0.5 acres of scrub habitat. See Appendix G, Figures G-7 and G-8.

While the potential environmental impacts of these three projects have not been fully analyzed, a preliminary evaluation of these projects suggests that potential cumulative adverse impacts would occur for biological resources. Project 1 would result in the permanent loss of up to 50 acres of scrub jay habitat. Project 2 would result in the permanent loss of up to 45 acres of scrub jay habitat, and project 4 would result in the permanent loss of up to 0.5 acres of scrub jay habitat.

When evaluated together, project 1, which includes the proposed action, project 2 and project 4 would result in a reduction of available breeding habitat and reduction in the availability of scrub habitat for restoration. Thus, cumulative adverse impacts on the federally threatened Florida scrub jay would occur. Through the Formal Section 7 Consultation process with the USFWS, conservation measures would be developed to reduce potential adverse impacts to the Florida scrub-jay.

As compensation for loss of this habitat, which includes the NOTU building, 34 acres of scrub habitat in Compartment 12 and 134 acres of scrub in Compartment 14 will be restored. In addition, a study to identify scrub jay predators and determine what ecological factors affecting their abundance and distribution will be funded. Since the NOTU facility will occupy approximately 8.5 acres of the campus site, they will be responsible for compensating for their portion of habitat destroyed. NOTU will be required to compensate at the 4:1 ratio; therefore, will provide funding for restoration of 34 acres. This money will be deposited directly into the National Fish and Wildlife Foundation fund for the 45th Space Wing, which will then be used to fund restoration activities on CCAFS.

Through Informal Section 7 Consultation with the FWS for this particular project, it was determined that cumulative impacts do not apply in this instance since 168 acres of currently overgrown scrub habitat would be restored, thus providing additional acreage for scrub jays to occupy. Impacts to scrub jays due to cumulative impacts are expected to be insignificant.

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**APPENDIX A  
RELEVANT FEDERAL AND STATE REGULATIONS AND STATUTES**

## APPENDIX A. RELEVANT FEDERAL AND STATE REGULATIONS AND STATUTES

### *Federal and state regulations applicable to the implementation of the proposed action*

<b>Federal Law</b>	<b>Regulatory Agency</b>	<b>Activity or Requirement</b>
Clean Air Act (CAA) of 1970 (42 U.S.C. 7401 et seq.)	U.S. Environmental Protection Agency (EPA); Florida Department of Environmental Protection (FDEP)	States that applicable state and national ambient air quality standards must be maintained during the operation of any emission source. National Ambient Air Quality Standards include primary and secondary standards for various pollutants. The primary standards are mandated by the CAA to protect public health, while the secondary standards are intended to protect the public welfare from adverse impacts of pollution, such as visibility impairment.
Clean Air Act Amendments of 1990	U.S. EPA, FDEP	Establishes new federal non-attainment classifications, new emissions control requirements, and new compliance dates for areas in non-attainment. The requirements and compliance dates are based on the non-attainment classification.
Clean Water Act (CWA) of 1977 as amended (33 U.S.C. 1251 et seq.)	U.S. EPA; FDEP; St. John's River Water Management District	Prohibits the discharge of pollutants from a point source into navigable Waters of the United States, except in compliance with a National Pollutant Discharge Elimination System permit (40 CFR Part 122). The navigable Waters of the United States are considered to encompass any body of water whose use, degradation, or destruction will affect interstate or foreign commerce.
Endangered Species Act (ESA) of 1973 (7 U.S.C. 136; 16 U.S.C. 460 et seq.)	U.S. Department of the Interior, Fish and Wildlife Service (USFWS)	Conserves threatened and endangered species and the ecosystems on which those species depend. The ESA requires that federal agencies, in consultation with the USFWS and the National Oceanic and Atmospheric Administration Fisheries Service use their authorities in furtherance of its purposes by carrying out programs for the conservation of endangered or threatened species.
Migratory Bird Treaty Act of 1918 as amended (16 U.S.C. 703-712)	USFWS	Implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful.
Resource Conservation and Recovery Act (RCRA) of 1976 (42 U.S.C. 6901 et seq.); Title 40 CFR 270; Chapter 403.704, 403.721, 403.8055, Florida Statutes ; Chapter 62-730.180, Florida Administrative Code	U.S. EPA; FDEP	Gives the U.S. EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous wastes.
Executive Order 13112, Invasive Species	U.S. EPA	Provides federal regulatory guidelines concerning invasive species

**APPENDIX B  
LIST OF PREPARERS**

**APPENDIX B LIST OF PREPARERS**

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**APPENDIX C  
BIBLIOGRAPHY**

## APPENDIX C. BIBLIOGRAPHY

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**APPENDIX D  
ACRONYMS AND ABBREVIATIONS**

## APPENDIX D. ACRONYMS AND ABBREVIATIONS

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45th CES/CEV	45th Space Wing Civil Engineering Environmental Flight
AFI	Air Force Instruction
ARPA	Archaeological Resources Protection Act
CAA	Clean Air Act
CCAFS	Cape Canaveral Air Force Station
CFR	Code of Federal Regulations
CO	Carbon monoxide
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
dBA	Decibel, A-weighted
DoD	Department of Defense
EPA	Environmental Protection Agency
ERP	Environmental Resource Permit
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
IRP	Installation Restoration Program
KSC	John F. Kennedy Space Center
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NO <sub>x</sub>	Nitrogen oxides
NOTU	Naval Ordnance Test Unit
NPDES	National Pollution Discharge Elimination System
PM <sub>10</sub>	Particulate matter equal to or less than 10 microns in diameter
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
SJRWMD	St. Johns River Water Management District
SO <sub>2</sub>	Sulfur dioxide
U.S.	United States
U.S.C.	United States Code
µg/m <sup>3</sup>	Micrograms per cubic meter

**APPENDIX E  
INFORMAL SECTION 7 CONSULTATION FOR CONSTRUCTION AND OPERATION OF AN  
ADMINISTRATIVE CAMPUS AREA, CCAFS, FLORIDA**



DEPARTMENT OF THE AIR FORCE  
45TH SPACE WING (AFSPC)



FWS Log No. 41910-2006-I-0058

The proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) This finding fulfills the requirements of the Act.

MEMORANDUM FOR UNITED STATES DEP  
U. S. FISH AND WILD  
6620 SOUTHPOINT D  
JACKSONVILLE FL 32  
ATTENTION: ANN MA

  
David L. Hankla  
Field Supervisor

11/3/2005  
Date

FROM: 45 CES/CEV  
1224 Jupiter Street, MS 9125  
Patrick AFB FL 32925-3343

SUBJECT: Informal Section 7 Consultation for Construction and Operation of an  
Administrative Campus Area, Cape Canaveral Air Force Station (CCAFS),  
Florida

1. The 45th Space Wing (45SW) proposes to construct an administrative campus area in the southern portion of CCAFS (site plan attached). This campus area will consist of four administrative buildings with associated parking lots, a pavilion, and retention areas. The purpose of these facilities is to consolidate Navy and Air Force personnel into a central location, as well as relocate personnel out of flight hazard areas. The campus will be built in phases, with the first phase consisting of a Navy administrative building and parking lot, which is proposed to be constructed in CY06.
2. The proposed site consists of vegetated areas and several acres of previously developed land. The entire campus will result in the loss of approximately 50 acres of overgrown oak scrub located in Compartments 124 and 126 (Figure 2). Neither compartment has undergone any restoration activities to date. During the 2005 census, the nearest group of Florida scrub-jays (*Aphelocoma coerulescens*) was observed approximately 500' away, in the southeast corner of Compartment 126 (Figure 2). Currently, there are no jays residing or utilizing the proposed project area. It is possible the habitat could support the Eastern Indigo Snake (*Drymarchon corais couperi*); although none have been observed during recent site visits. It is doubtful that the Southeastern Beach Mouse (*Peromyscus polionotus niveiventris*) is present due to the thickness of the vegetation; however, the ruderal and open sandy areas could support this species, although none have been observed during site visits.
3. To compensate for the loss of potential scrub habitat, the 45SW proposes to restore Compartment 12 (34 acres) and 14 (134 acres), which are located in the northern corridor of CCAFS (Figure 3). Additionally, the 45SW proposes to fund a study to identify scrub jay predators and determine what ecological factors affect their abundance and distribution. Identification of management techniques to minimize nest

GUARDIANS OF THE HIGH FRONTIER

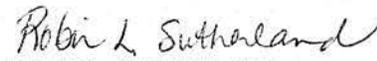
predation will also be included. The presence of the new facility will not impose stricter burn restrictions since the facility's purpose is administrative only.

4. Other than the loss of 50 acres of habitat, no other adverse impacts to indigo snakes are expected. The 45SW Indigo Snake Protection/Education Plan will be presented to the project manager and construction manager and personnel. An educational sign will be displayed at the site, informing personnel of the snake's appearance, protected status, and who to contact if any are spotted in the area. Any indigo snakes encountered during clearing activities will be allowed to safely leave the area on their own. Furthermore, any indigo encountered during gopher tortoise burrow excavation, if required, will be safely moved out of the project area.

5. Impacts to beach mice are expected to be negligible since no burrows were observed at the site.

6. Based on the above information, it is the opinion of the 45SW that the proposed project is not likely to adversely affect the Florida scrub-jay, southeastern beach mouse, or eastern indigo snake. The 45SW requests concurrence with this finding.

7. Please review the proposed project in accordance with Section 7 of the Endangered Species Act and provide a response to this office at your convenience. POC for this action is Ms Angy Chambers, 45 CES/CEVP, 321-853-6822 or E-mail, [angy.chambers@patrick.af.mil](mailto:angy.chambers@patrick.af.mil).

  
ROBIN L. SUTHERLAND  
Chief, Environmental Planning

Attachments:

1. Figure 1, Site Plan
2. Figure 2, Aerial of Campus Area
3. Figure 3, Compensation Area

GUARDIANS OF THE HIGH FRONTIER

**APPENDIX F  
FLORIDA STATE CLEARINGHOUSE CORRESPONDENCE**



Jeb Bush  
Governor

## Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Colleen M. Castille  
Secretary

April 29, 2005

Ms. Angy Chambers  
Department of the Air Force  
45 CES/CEV  
1224 Jupiter Street, MS 9125  
Patrick AFB, FL 32925-3343

RE: Department of the Air Force – Environmental Assessment (EA) for the Proposed Naval Ordnance Test Unit Engineering Services Facility at Cape Canaveral Air Force Station – Cape Canaveral, Brevard County, Florida

SAI # FL200503140566C

Dear Ms. Chambers:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the above-referenced EA.

The St. Johns River Water Management District (SJRWMD) states that an Environmental Resource Permit will be required prior to development of the site. It notes that, although there is little discussion about wetlands, it is likely that wetlands are present within portions of the project site. The location and extent of wetlands and other surface waters will need to be identified during the design phase of the project and every effort should be made to avoid and minimize impacts to these resources. The SJRWMD advises that unavoidable direct and secondary impacts will require mitigation in accordance with the Unified Mitigation Assessment Method found in Chapter 62-345, *Florida Administrative Code*. Compliance with the environmental review criteria in Chapter 12 of the Applicant's Handbook will also be required. Please contact Michelle Reiber, Supervising Regulatory Scientist, in the Palm Bay service center at (321) 676-6615 or mreiber@sjrwmd.com for additional information.

Based on the information contained in the referenced project report and comments provided by our reviewing agencies, the state has determined that, at this stage, the proposed project is consistent with the Florida Coastal Management Program (FCMP). The applicant must, however, address the concerns identified by the reviewing agencies as described herein and

*"More Protection, Less Process"*

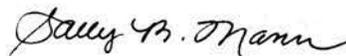
*Printed on recycled paper.*

Ms. Angy Chambers  
April 29, 2005  
Page 2 of 2

enclosed. The state's continued concurrence with the project will be based, in part, on the adequate resolution of any issues identified during this and subsequent permitting reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

Thank you for the opportunity to review this project. If you have any questions regarding this letter, please contact Ms. Suzanne Ray at (850) 245-2172.

Yours sincerely,



Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/ser

Enclosures

cc: Barbara Bess, DEP Central District  
Geoffrey Sample, SJRWMD



# Florida

Department of Environmental Protection

*More Protection. Less Process*



Categories

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PROJECT NUMBER	FL200503140566C
ISSUE DATE	April 13, 2005
REVISION DATE	April 29, 2005
PROJECT TITLE	DEPARTMENT OF THE AIR FORCE - ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED NAVAL ORDNANCE TEST UNIT ENGINEERING SERVICES FACILITY AT CAPE CANAVERAL AIR FORCE STATION - CAPE CANAVERAL, BREVARD COUNTY, FLORIDA.
PROJECT LOCATION	USAF - NAVAL ORDNANCE TEST UNIT ENGINEERING FACILITY - CAPE CANAVERAL, BREVARD
PROJECT ID	12.200
<b>COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS</b>	
No comments	
<b>ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION</b>	
No comments	
<b>STATE - FLORIDA DEPARTMENT OF STATE</b>	
No comment/Consistent	
<b>TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION</b>	
No Comment	
<b>ST. JOHNS RIVER WMD - ST. JOHNS RIVER WATER MANAGEMENT DISTRICT</b>	
An Environmental Resource Permit will be required prior to development of this site. Although there is little discussion about potential wetlands on the project site, it is likely that wetlands are present within portions of the project site. The location and extent of wetlands and other surface waters will need to be identified during the design phase of the project and every effort should be made to avoid and minimize impacts to these resources. Unavoidable direct and secondary impacts would require mitigation in accordance with the Unified Mitigation Assessment Method found in Chapter 62-345, F.A.C. Compliance with the environmental review criteria in Chapter 12 of the Applicant's Handbook would also be required. Please contact Michelle Reiber, Supervising Regulatory Scientist, in the Palm Bay service center at (321) 676-6615 or mreiber@sjrwm.com if there are any questions.	
<b>E. CENTRAL FL RPC - EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL</b>	
The proposed project, as presented for review and when considered in its entirety, is consistent with the adopted Goals, Policies and Objectives of the East Central Florida Regional Planning Council.	
<b>BREVARD -</b>	
No Comment	
<b>FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION</b>	
No Final Comments Received	

For more information please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD MS-47  
 TALLAHASSEE, FLORIDA 32399-3000  
 TELEPHONE: (850) 245-2161  
 FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

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SP

COUNTY: BREVARD

EC# - USAF-CCAFS  
2005-02785

APR 07 2005

DATE: 3/14/2005

COMMENTS DUE DATE: 4/13/2005

CLEARANCE DUE DATE: 4/29/2005

SAI#: FL200503140566C

MESSAGE:

<b>STATE AGENCIES</b>	<b>WATER MNGMNT. DISTRICTS</b>	<b>OPB POLICY UNIT</b>	<b>RPCS &amp; LOC GOVS</b>
COMMUNITY AFFAIRS	ST. JOINS RIVER WMD		
ENVIRONMENTAL PROTECTION			
FISH and WILDLIFE COMMISSION			
X STATE TRANSPORTATION			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

DEPARTMENT OF THE AIR FORCE - ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED NAVAL ORDNANCE TEST UNIT ENGINEERING SERVICES FACILITY AT CAPE CANAVERAL AIR FORCE STATION - CAPE CANAVERAL, BREVARD COUNTY, FLORIDA.

To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)  
3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

EO. 12372/NEPA Federal Consistency

- No Comment
- Comment Attached
- Not Applicable
- No Comment/Consistent
- Consistent/Comments Attached
- Inconsistent/Comments Attached
- Not Applicable

From: Division of Historical Resources  
Division/Bureau: Bureau of Historic Preservation

Reviewer: S. Edwards, Larue L. Kammeyer, Deputy SHPO

Date: 4/5/05, 4/5/2005

RECEIVED  
BUREAU OF HISTORIC PRESERVATION  
MAR 19 4 10 17 2005

**APPENDIX G**  
**POTENTIAL FUTURE PROJECTS CONSIDERED FOR CUMULATIVE IMPACT ANALYSIS**

APPENDIX G. POTENTIAL FUTURE PROJECTS CONSIDERED FOR CUMULATIVE IMPACT ANALYSIS

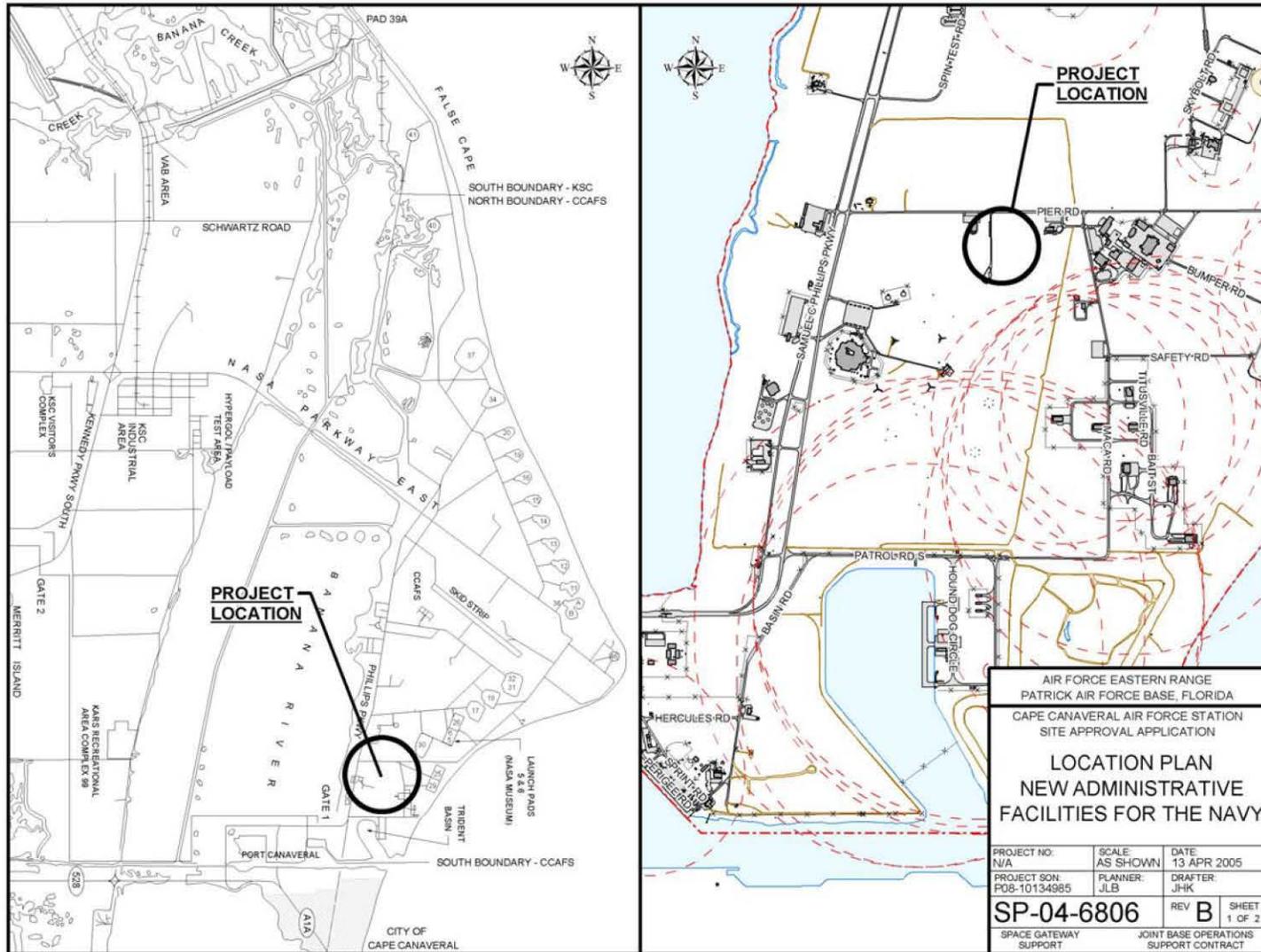


Figure G-1 General location of the proposed Administrative Campus Area

APPENDIX G. POTENTIAL FUTURE PROJECTS CONSIDERED FOR CUMULATIVE IMPACT ANALYSIS

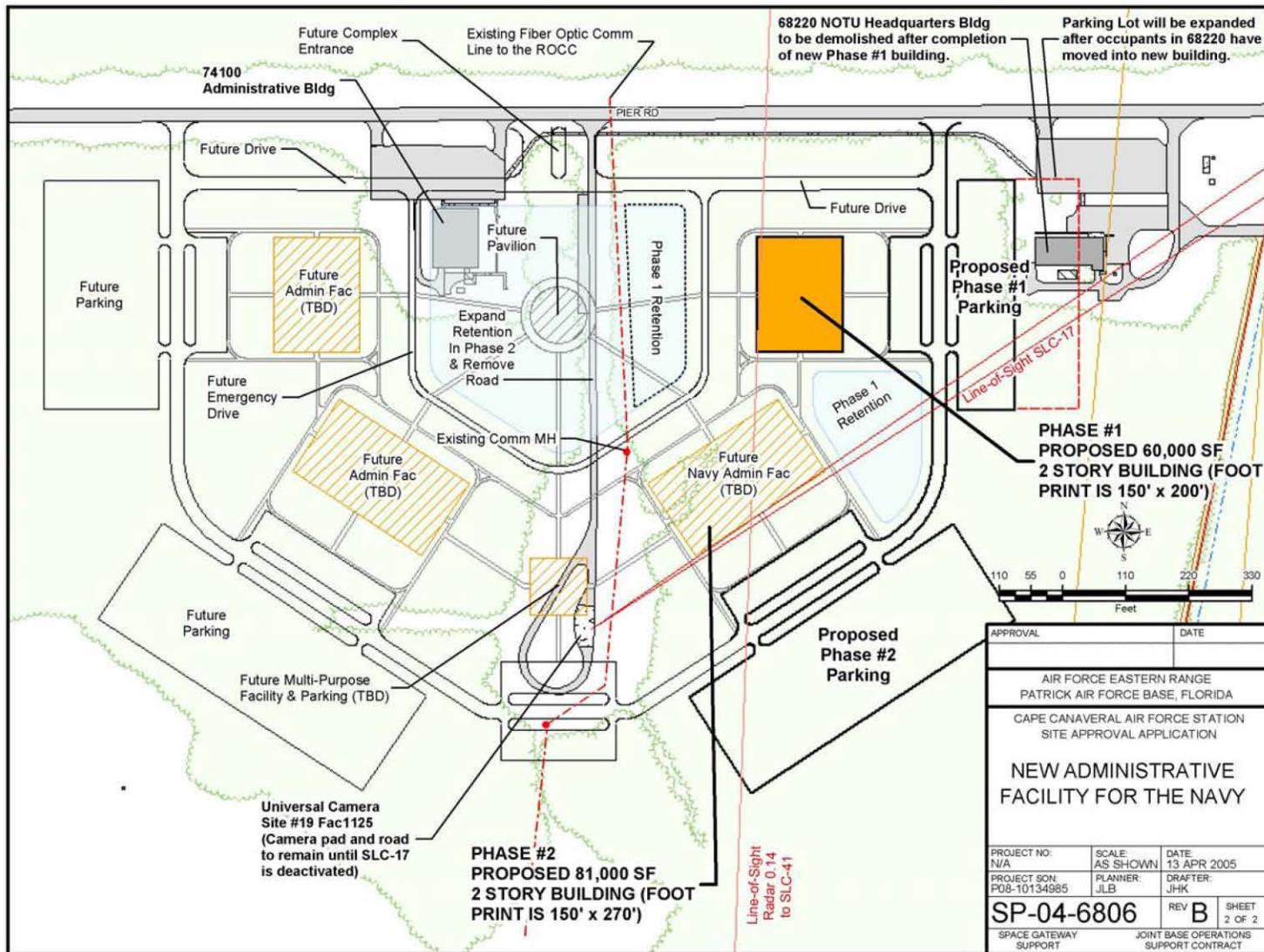


Figure G-2 Proposed layout of the Administrative Campus Area

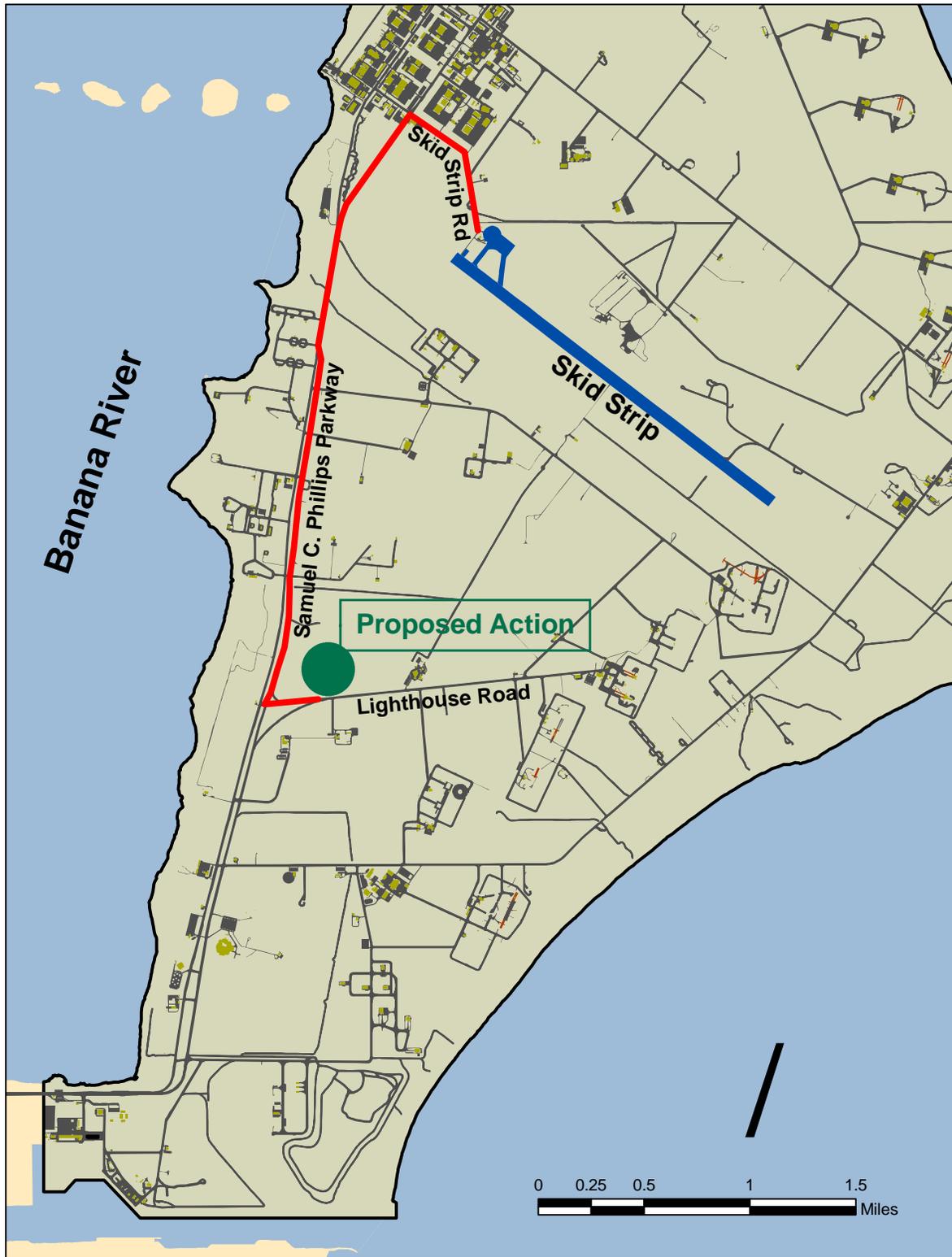


Figure G-3 General location of the proposed Eastern Processing Facility (EPF)

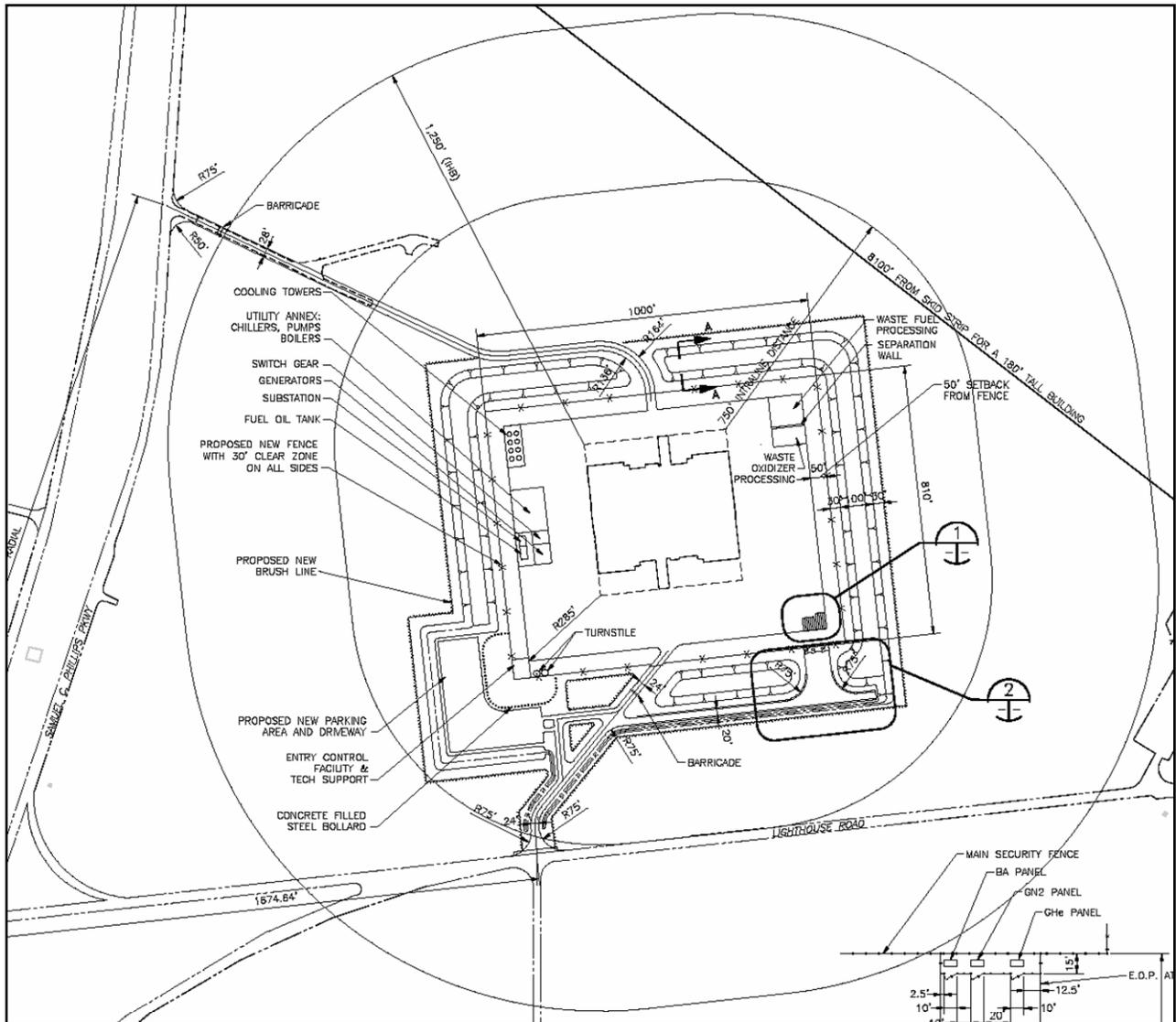


Figure G-4 Proposed layout of the Eastern Processing Facility (EPF)

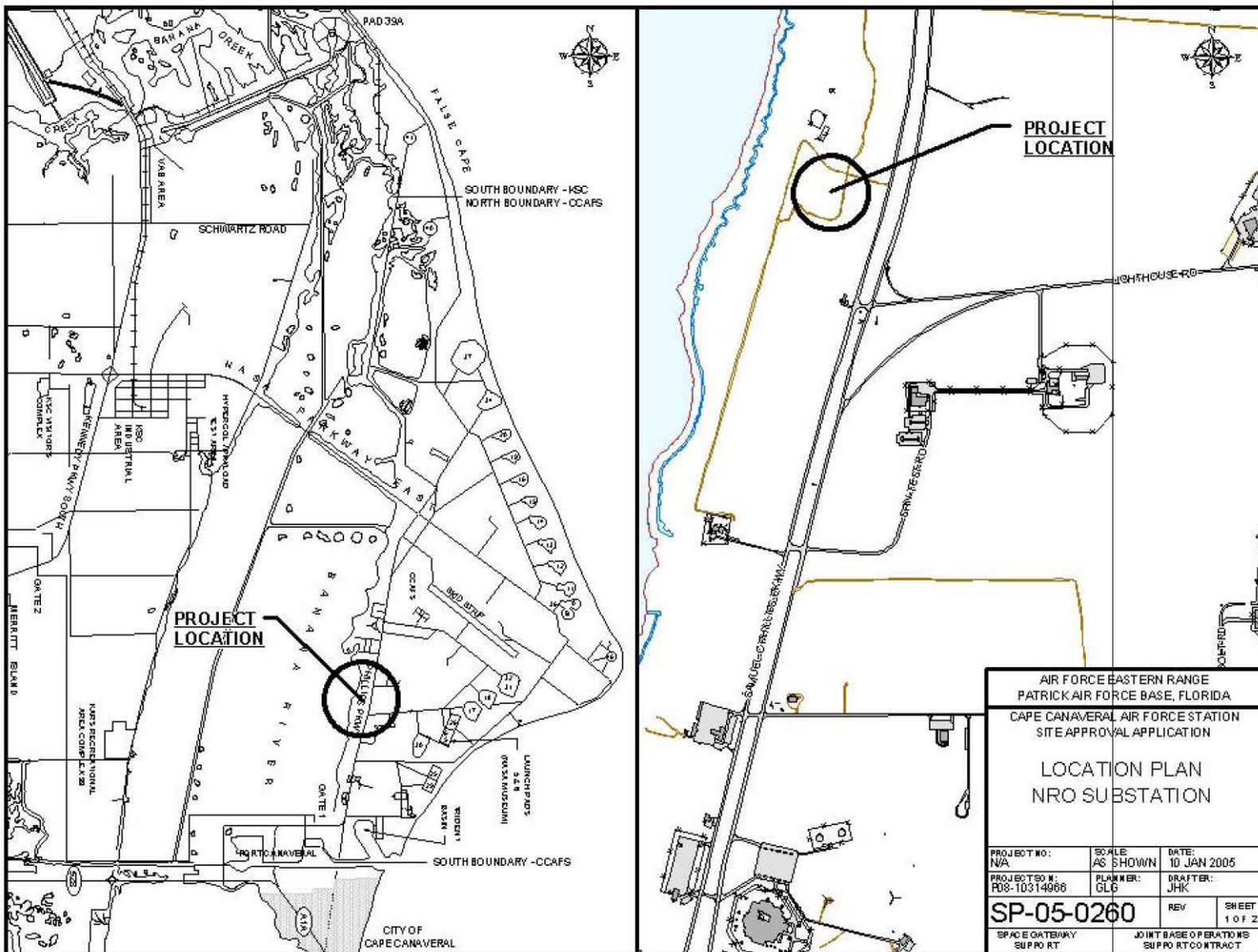


Figure G-5 General location of the Eastern Processing Facility (EPF) Substation

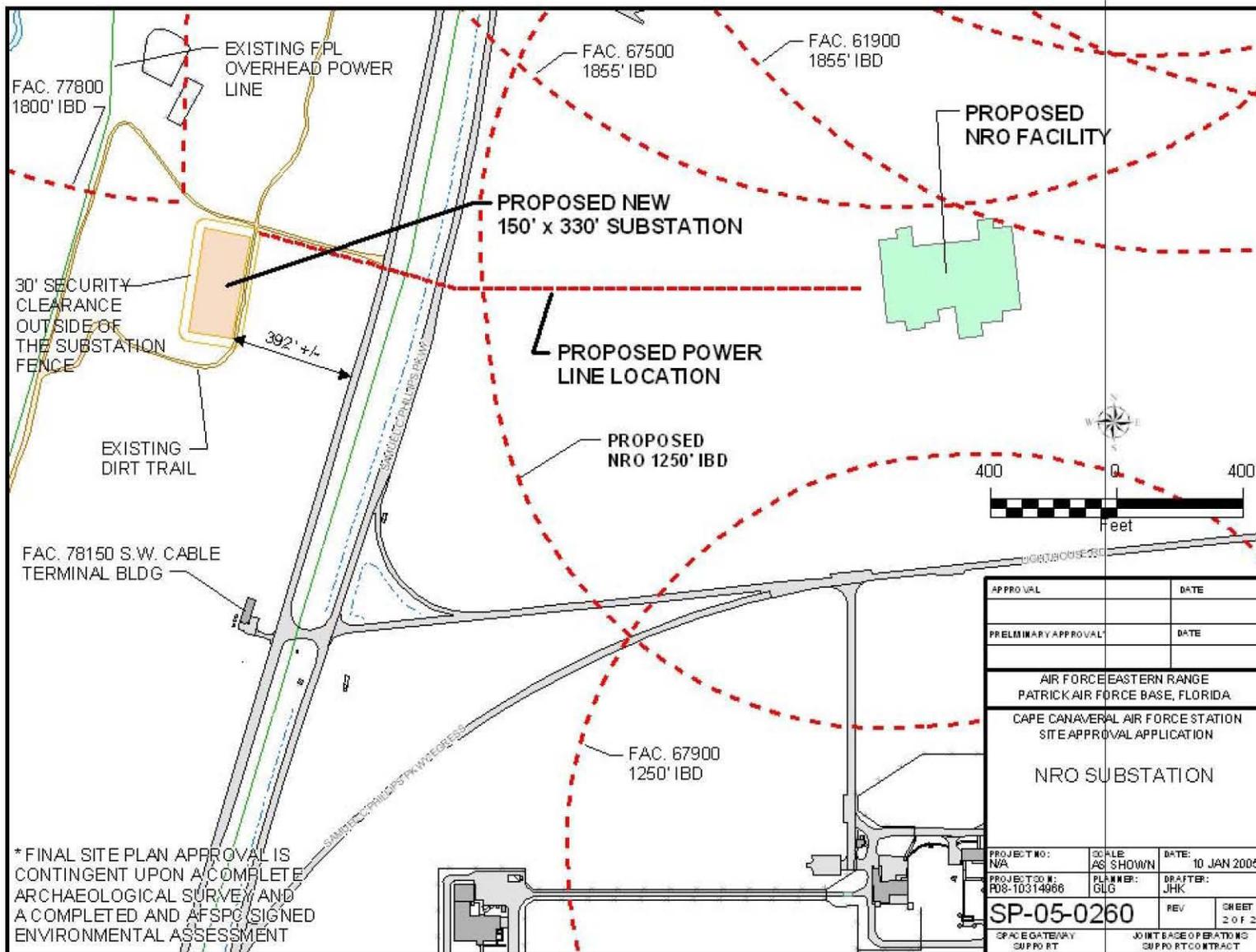


Figure G-6 Proposed layout of the Eastern Processing Facility (EPF) Substation

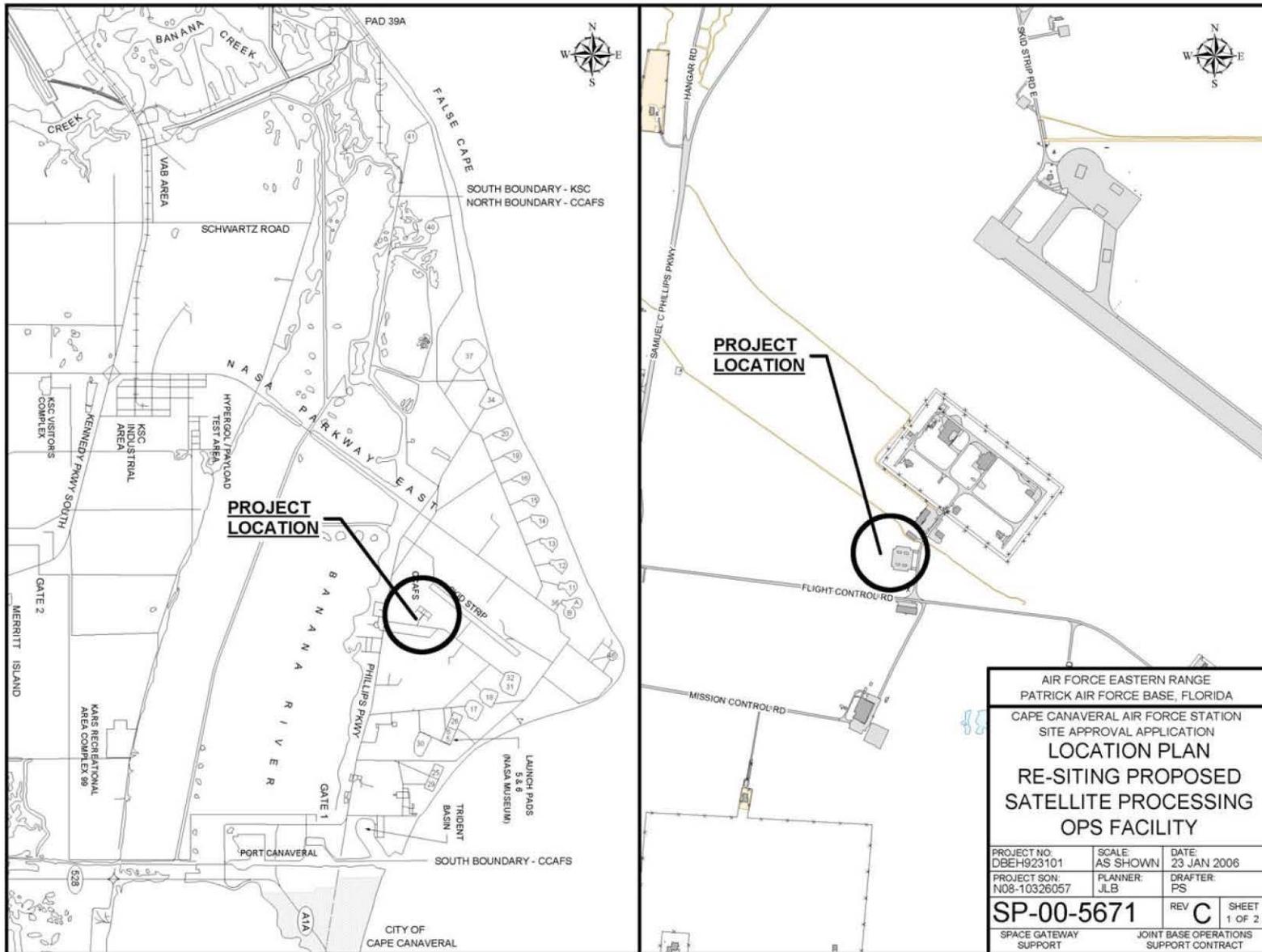
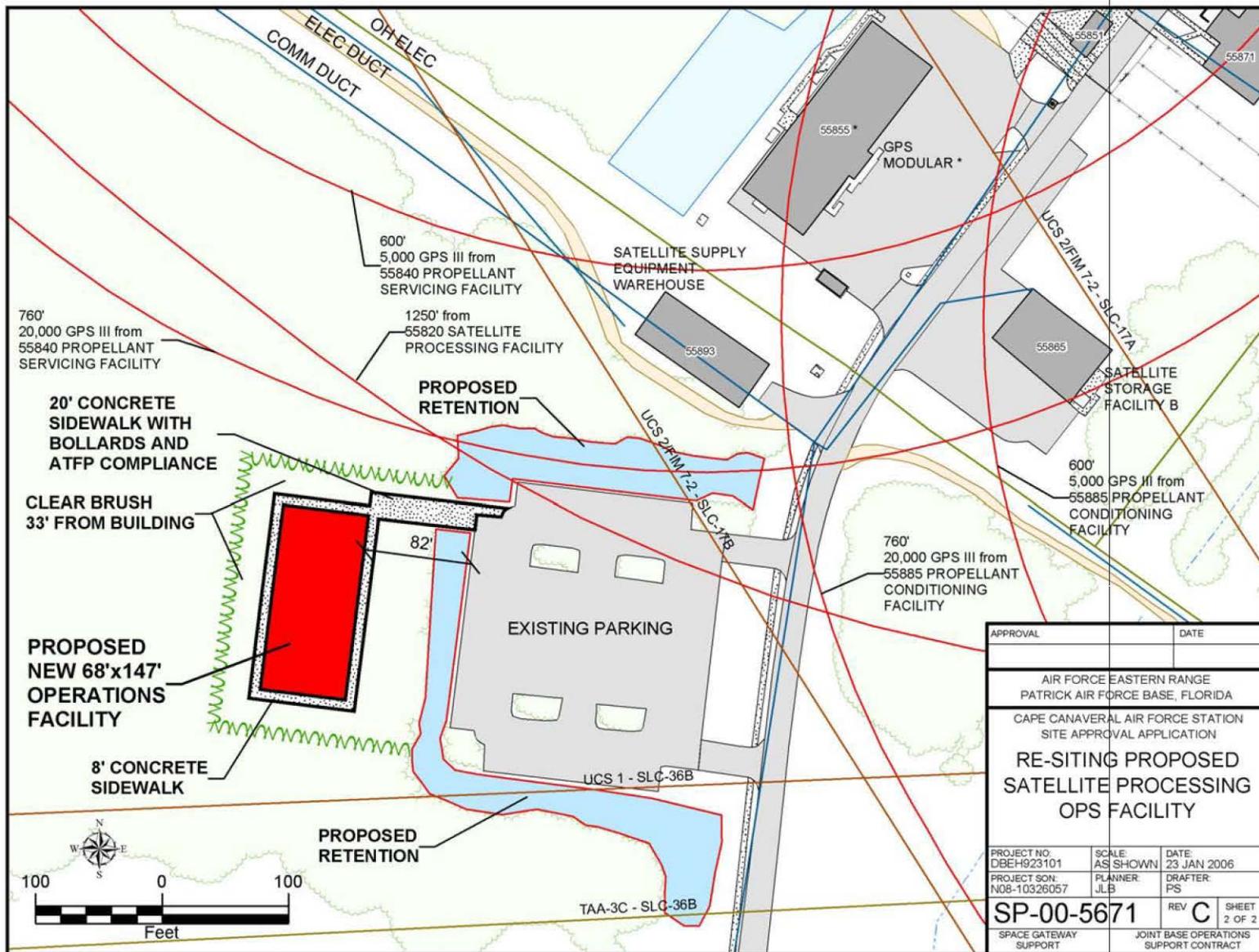


Figure G-7 General location of the Satellite Operations Support Facility



G-8 Proposed layout of the Satellite Operations Support Facility